

LEATH & ROSS'S HOMEOPATHIC PHARMACIES

9 VERE STREET, W.,
And 5 ST. PAUL'S CHURCHYARD, E.C., LONDON.

ESTABLISHED 1838.

TRADE NOTICE—10 % Discount for Cash with Orders.

OUR £4 4s. AGENTS' CASE,

Contents realise £7 5s. 3d.



'Upwards of 1,600 of these Cases have been sent out.
Dimensions.—Length, 19 inches; breadth, 16 inches; height of front, 3½ inches;
height of back, including flap, 11 inches.'

Send for Book Catalogue and Illustrated Price List.

WHOLESALE PRICE LIST OF MEDICINES PUT UP READY FOR SALE.

	TO ACCOUNT.	FOR CASH.		TO ACCOUNT.	FOR CASH.
GLOBULES.—Sixpenny Tubes ...	3/0 doz.	2/9 doz.	PILULES.—Sixpenny Bottles ...	3/0 doz.	2/9 doz.
Ninepenny ,,	4/6 "	4/1 "	Ninepenny ,,	4/6 "	4/1 "
Shilling ,,	6/0 "	5/5 "	Shilling ,,	6/0 "	5/ " "
TINCTURES.—Sixpenny Bottles ...	8/0 "	2/9 "	TRITURATIONS.—Sixpenny Bottles	4/0 ..	3/7 ..
Ninepenny ,,	4/6 "	4/1 "	Ninepenny ,,	4/6 ..	4/1 ..
Shilling ,,	6/0 ..	5/5 "	Shilling ,,	6/0 ..	5/5 ..

Liberal supply of printed matter to Agents, also Showcards, Transparencies, &c.

PETROLEUM

REGISTERED

"VASELINE"

JELLY.

TRADE MARK.

With increased facilities for Manufacturing, we are enabled to offer
 WHITE VASELINE and PERFUMED WHITE VASELINE, in the
 following packages,

AT GREATLY REDUCED PRICES.

"WHITE VASELINE."

In Collapsible Tubes	... ... ... ...	...	1 dozen in box, -/8 each, 5/- per doz.
In 2-oz. Bottles, Cardboard Cases, No. 1 size	... ...	1 dozen in box, 1/- , , ,	8/- , , ,
In 5-oz. Bottles, Cardboard Cases, No. 2 size	... ...	½ dozen in box, 2/- , , ,	15/- , , ,
1-lb. Tins, 1/9 per lb.		5-lb. Tins, 1/6 per lb.	

"PERFUMED WHITE VASELINE."

In Collapsible Tubes	... ... ... ...	...	1 dozen in box, -/9 each, 6/- per doz.
In 2-oz. Bottles, Cardboard Cases, No. 1 size	... ...	1 dozen in box, 1/- , , ,	8/6 , , ,
In 5-oz. Bottles, Cardboard Cases, No. 2 size	... ...	½ dozen in box, 2/- , , ,	16/- , , ,
In Bottles with Glass Stoppers, superior style of package, our Present "Pomade No. 3"	... ...	½ dozen in box, 3/- , , ,	28/- , , ,
1-lb. Tins, 2/9 per lb.		5-lb. Tins, 2/6 per lb.	

CAUTION.—The Trade are cautioned that the word
 "VASELINE" is the Registered Trade Mark of this Company for
 all their Emollient, Remedial, and other Preparations of Petroleum.

CHESEBROUGH MANUFACTURING CO. (NEW YORK),

41 HOLBORN VIADUCT, LONDON, E.C.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE "VASELINE" PREPARATIONS.

PRICE LISTS POST FREE.

PRELIMINARY ANNOUNCEMENT.

**THE
BRITISH CHEMISTS & DRUGGISTS'
TRADING ASSOCIATION,
LIMITED.**

Incorporated under the Companies' Acts, 1862-84, whereby the liability of members is limited to the amount of their shares.

Capital £100,000 in 20,000 Shares of £5.

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ED. ARTHUR, Esq., (late Manager, Chartered Mercantile Bank of I. L. & Ch., Hong-Kong),
12 Clements Lane, Lombard Street, E.C.

WM. CROOKES, Esq., F.R.S., etc., 7 Kensington Park Gardens, W.*

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* Will join the Board after allotment.

To whom it is proposed to add three Pharmaceutical Chemists to be elected by the Shareholders if necessary.

BANKERS.

THE LONDON AND WESTMINSTER BANK (Limited) Southwark Branch.

SOLICITOR.

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Messrs. W. C. COOPER & CO., London, E.C.

SECRETARY (*pro. tem.*).

Mr. JOHN MANLEY.

TEMPORARY OFFICES.

20 King's Arms Yard, Coleman Street, E.C.

The great advantages which this co-operative Association offers to Chemists and Druggists and the Medical Profession justify the Directors in inviting their attention to the prospectus and explanatory letter, copies of which may be obtained *at once* on application to the *Secretary* or to the *Solicitor* of the Association.

Subscription Lists for the share capital will be opened in the course of September. Applications for shares will be considered in the order in which they are received.

ECONOMICAL

CONVENIENT

COFFEE FOR THE MILLION



Forty large Cups of delicious Coffee made without trouble, for One Shilling, by using

SYMINGTON'S ESSENCE OF COFFEE & CHICORY.

Their other Beverages are also well known, viz.:—

ESSENCE OF PURE COFFEE Finest Quality.



ESSENCE OF DANDELION COFFEE,

A genuine preparation guaranteed to be prepared from the Dandelion, and containing no Chicory.

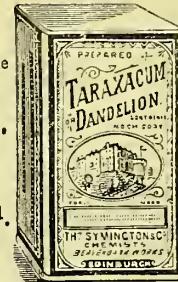
"EDINBURGH" COFFEE AND MILK.

"EDINBURGH" COCOA AND MILK.

Prepared Taraxacum or Dandelion.

Prepared Taraxacum with Coffee.

TO BE HAD FROM ALL DEALERS.



GOLD MEDAL awarded New Zealand Exhibition, 1882 ; and Calcutta Exhibition, 1884.

QUALITY UNSURPASSED. A TRIAL SOLICITED.

EXTRACT FROM "LANCET."

"The Essence of Dandelion Coffee is really an excellent substitute for Coffee, and will, we think, be an advantage to many bilious and dyspeptic patients."

EXTRACT FROM "BRITISH MEDICAL JOURNAL."

"Symington & Co.'s Coffee Essences have a standard reputation, and possess great merit. The Coffee Essence must be prepared in *Vacuo* at a low temperature, as the aroma of the Coffee is well preserved; in its essential qualities it does not differ in any way from a cup of Coffee made in the ordinary way. The Coffee and Milk is extremely convenient for travellers, bachelors, &c., or wherever it may be convenient to have at hand a preparation which requires only the addition of boiling water to make a cup of *good Milk-Coffee*."

Agent for Australia: C. A. Anderson, Clarence Street, Sydney, N.S.W. New Zealand: R. Wilkin & Co., Christchurch; Levin & Co., Wellington; and A. Heather, Auckland. United States: Davis, Sacker & Perkins, Boston. Canada: Thos. Stewart, 24 Scott Street, Toronto.

THOS. SYMINGTON & CO., CHEMISTS, EDINBURGH.



THE NEW PATENT PERFORATED TOILET PAPER & FIXTURE SHOULD BE IN EVERY HOUSEHOLD.

This Paper is strongly recommended for family and hotel use, combining, as it does, great economy and neatness, with protection to health. Once tried always continued. Gives great satisfaction.

One Fixture will last a lifetime, and rolls of paper to refill can always be easily obtained and readily attached.

1 Roll Paper, with nickel holder ...	...	...	...	...	2/6
1 Roll Paper, with bronzed holder ...	...	...	...	...	2/-
1 Roll Paper, with 1,000 sheets, to refill either holder ...					1/-

THE TRADE SUPPLIED.

THE BRITISH PATENT PERFORATED PAPER CO., LTD.
12 LONG LANE, WEST SMITHFIELD, LONDON, E.C.

S Q U I R E ' S
SUPERDIASTASIC
MALT EXTRACT.

THIS Extract is prepared from the finest Malted Barley, at a very low temperature *in vacuo*, by a special process, under the immediate supervision of one of the firm.

It contains the largest quantity of active diastase, and possesses the highest digestive power of any Extract of Malt in the market.

It is a valuable nutrient, undoubtedly of service in Consumption and other wasting diseases, and, being pleasant and palatable, is a most useful adjunct to the food of children.

It is one of the best remedies for indigestion when taken with Squire's Pepsine.

This preparation gained a Silver Medal (the only award for Malt Extract) at the National Health Exhibition, where it was in competition with Malt Extracts of other well-known makers.

Dose—A dessertspoonful for adults; a teaspoonful for children.

S Q U I R E,

CHEMIST ON THE ESTABLISHMENT IN ORDINARY TO THE QUEEN,
413 OXFORD STREET, LONDON.

RESPIRATORS !!

		£	s.	d.
CLOUD , per doz.	...	0	8	0
COLLIER'S , per doz., No. 0, 18/-; No. 1, 24/-; No. 2, 30/-; No. 3, 42/-;	No. 4, 48/-; No. 5, 36/-; No. 6	2	14	0
CORK , per doz.	...	0	6	0
COTTON WOOL , per doz.	...	3	0	0
MAW'S ÆTHEREON , per doz.	...	3	4	0
MAW'S MICRO-ÆTHEREON , per doz.	...	3	4	0
MAW'S INCORRODIBLE METALLIC , per doz., No. 1, 8/-; 1A, 12/-;	2, 21/-; 2A, 18/-; 3, 30/-; 3A, 24/-; 4, 32/-; 5, 40/-; 6, 45/-; 7, 50/-;	2	0	0
	8, 56/-; Dwarf, No. 1, 24/-; 2, 30/-; 3,	2	0	0
MAW'S SCARF , each	...	0	8	0
NIGHTINGALE'S INVISIBLE , each	...	0	14	0
ROOFF'S , per doz.	19/-, 27/-, 39/-, 48/-, and	3	3	0
ROOFF'S ORINASAL CHARCOAL , for preventing the Inhalation of Deleterious Vapours and Poisonous Powders in Chemical and Manufacturing Establishments	each	0	5	6

Special Quotations to Wholesale Buyers.

**S. MAW, SON & THOMPSON,
ALDERSGATE STREET, LONDON.**



NOTICE.



NEPENTHE.

FERRIS & Co., v. GOODMAN.

NOTICE IS HEREBY GIVEN that by an Order of the Chancery Division of the High Court of Justice, made the 18th day of July, 1884, in the above action, **IT WAS ORDERED** that the Defendant and others be perpetually restrained from selling, or offering for sale, any formula or recipe for "Nepenthe," and from otherwise prejudicing the sale thereof by, or injuring the title thereto, or Trade Mark therein, of the Plaintiffs, **Messrs. Ferris & Co., of Bristol**, the registered proprietors thereof.

And it was further ordered that the Defendant do pay the costs of the said Action.

Dated this 12th day of August, 1884.

(Signed) CHILTON & GREEN-ARMYTAGE, BRISTOL,
Solicitors for the said Plaintiffs.

NEPENTHE.

(Prepared exclusively from Opium.)

The safest and best preparation of Opium; produces neither headache, sickness, nor constipation.

Dose, the same as that of Tinct. Opii, P.B.

Price 8s. per pound.

The word *NEPENTHE* being registered under the Trade Marks Act, **Messrs. FERRIS & CO.** have the *SOLE RIGHT* to use it; and the Trade are respectfully cautioned against any infringement of their rights.

Trade and Wholesale Terms for NEPENTHE upon application.

FERRIS, BOORNE, TOWNSEND & BOUCHER,
MANUFACTURING CHEMISTS, BRISTOL.

SYDNEY, NEW SOUTH WALES,
June 11, 1884.

ENO'S FRUIT SALT

IN EQUITY.

In Equity.—(Before his Honour the PRIMARY JUDGE.)

ENO v. DAVIES AND ANOTHER.

Mr. J. E. Solomon, Q.C., and Dr. Donovan, instructed by Mr. De Lissa, for the plaintiff; Mr. Owen, Q.C., and Mr. Nash, instructed by Messrs. Bull & Bull, for the defendants.

This is a suit instituted by James Crossley Eno, of Pomeroy Street, Hatcham, Surrey, England, to have the defendants, William Davies and James Channon, trading as William Davies & Co., Goulburn, and Harbour Street, Sydney, ordered to take a certificate of registration for a trade mark called "The Australian Fruit Salt" off the file at the Registrar-General's office, and also to have them restrained by perpetual injunction from using the title to any other commodity. The plaintiff claimed that the trade mark was an infringement of his own, viz., Eno's Fruit Salt, Fruit Saline, and Fruit Powder. Consequential damages were also claimed. The defendant's mark was registered in this colony two months before plaintiff's.

His HONOUR, in giving judgment, said he had no doubt that the case came within the principle laid down in the cases which had been cited wherein the Court enjoined a defendant not to continue the use of his trade mark. Although there were some important points of distinction in the goods, still there were points of resemblance which were calculated to induce persons to believe that they were obtaining the plaintiff's, when in reality they were buying the defendants'. The bottles were about the same weight and shape, and a purchaser of the defendants' would hardly know he had not got Eno's until he opened the package. Looking at the two bottles, he thought purchasers were exceedingly likely to be misled, because a man was not supposed to carry his last bottle with him in order to see that he was getting the same article, and persons buying were not supposed to be always suspicious that frauds were being practised upon them. He considered the term "fruit salt" sufficiently distinctive to be in itself a trade mark, and it had been proved in evidence that people generally asked for it by that name. The resemblance in the bottles and in the printing on the wrappers was so close that he regretted he could not say that it resulted from accident, or was consistent

with innocence. The distinctions seemed to have been carefully studied in order to escape, if possible, the results of imitation. The defendants had brought out their article just when the plaintiff's had taken a gigantic jump in public estimation, and had acted in such a way as to induce him to believe that they intended to lead the public to think they were buying plaintiff's goo's when they were served with theirs. There was fraud which tradespeople unfortunately did not think much of, but which the Court always regarded with the greatest reprehension. He did not think the argument as to the second section of the Act had very much to do with the case. When the defendant registered he must have obviously known that Eno's Fruit Salt was in the market. He had no more right to register than he had to sell. He did not think the Act in any way interfered with the powers which the Court of Equity possessed before it became law. The Act had only been passed to afford a speedier and readier remedy to those who registered under it. The 7th section evidently contemplated that such a suit as the present one should be taken by a person who considered he had been wronged, as the plaintiff had been. He would grant the injunction in the terms of the prayer, restraining the defendants from using the trade mark, on the ground that it was an infringement on the plaintiff's prior and exclusive claim. He would order them to take such proper and necessary steps as were possible to take the certificate of registration off the file, but if a power greater than theirs stood in the way in the matter, they would be relieved from attachment. He did not see how he could compel the Registrar-General, who was an officer appointed by Parliament to do a certain thing, to cancel the certificate, especially as he had not been made a party to the suit. The certificate, however, could be delivered up, because it was part of the subject matter of the suit. He would order the defendants to pay costs up to the hearing, and would direct an issue as to consequential damages to be tried before a special jury of four in the Jury Court on a day to be named. He would make the question of costs of these further proceedings dependent upon the result, because it might be that he would not give plaintiff his costs if he did not recover a substantial amount.

CAUTION.—Legal Rights are protected in every Civilised Country.

SOLD BY ALL CHEMISTS.

Directions in Sixteen Languages how to prevent disease.

PREPARED ONLY AT

ENO'S FRUIT SALT WORKS, HATCHAM, LONDON, S.E.,
BY J. C. ENO'S PATENT.

CONDY'S FLUID—IMITATIONS.

INJUNCTIONS.

In the High Court of Justice.

CONDY & MITCHELL, LIMITED, v. FLINDERS.

By Order of Vice-Chancellor Sir James Bacon, dated the 11th June, 1884, the Defendant was perpetually restrained from infringing the Plaintiffs' Trade Marks, and from selling any Disinfecting Fluid in wrappers with any imitation of the Plaintiffs' labels, and from selling any Disinfecting Fluid not being of the Plaintiffs' manufacture as or for the goods of the Plaintiffs by using upon the bottles containing such Disinfecting Fluid a label colourably differing from the Plaintiffs' label upon bottles in which their Disinfecting Fluid known as Condy's Fluid is sold.

J. SEYMOUR SALAMAN,

12 KING STREET, CHEAPSIDE.

Solicitor to the Trade Mark Protection Society.

In the High Court of Justice.

CONDY & MITCHELL, LIM., v. COLDWELL & CO.

I, DAVID BRAINERD COLDWELL, of Lavender Hill, Clapham Junction, in the County of Surrey, Chemist, having inadvertently and in ignorance of the legal rights of the above-named Plaintiffs placed upon bottles containing a disinfecting fluid prepared by me Labels which in colour and wording are similar to those in use by the above-named Plaintiffs on bottles containing "CONDY'S FLUID," hereby express my regret, and have consented to a perpetual Injunction being granted in the above Action with costs.

Dated this 24th day of July, 1884.

(Signed)

DAVID B. COLDWELL,

Trading as COLDWELL & CO.

J. SEYMOUR SALAMAN,

Solicitor to the Trade Mark Protection Society.

BARCLAY & SONS,



95 FARRINGDON STREET, LONDON.

PATENT MEDICINES

AND

PROPRIETARY ARTICLES,

ENGLISH, FRENCH, AND AMERICAN, ETC.

SOLE PROPRIETORS OF THE FOLLOWING ARTICLES:

MRS JOHNSON'S SOOTHING SYRUP.

An external application which has been in use for more than eighty years, is the only safe remedy of the kind, and is acknowledged by all who have tried it to be the best thing out for

CHILDREN CUTTING TEETH,

as it contains no narcotic nor poisonous ingredient whatever, and its taste is delicious. Rubbed on the heated gums, it relieves the little sufferer wonderfully, and at the same time assists the passage of the teeth.

One bottle will last during the whole period of teething.

Retail Price 2s. 9d. per bottle.

DREDGE'S HEAL-ALL

Is the OLDEST and MOST THOROUGH CURE FOR MUSCULAR RHEUMATISM,

Also unequalled for LUMBAGO, CHILBLAINS, BROKEN SHINS, &c. DREDGE'S HEAL-ALL gives immediate relief, and after the third or fourth application, completely cures the disease. It is admitted to be the best remedy for that dangerous disease, QUINSY, or SORE THROAT, in which it was never known to fail after a few hours' application. It is also an excellent remedy for WHITLOWS, and is much used for CHILBLAINS. Charles Dickens, in 'Household Words,' says of "the Matron of Gable College"—"She lived greatly in DREDGE'S HEAL-ALL, and so did those boys who were most given to breaking their shins or elbows."

Retail Prices 1s. 1½d. and 2s. 9d. per bottle.

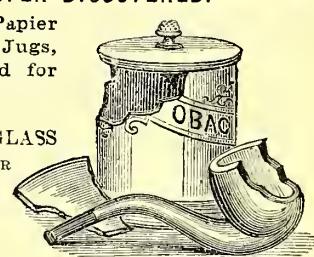
DAVY'S DIAMOND CEMENT

IS THE HARDEST, TOUGHEST, AND MOST ENDURING CEMENT EVER DISCOVERED.

It securely and neatly mends China, Glass, Fancy Articles, Papier Mache, Toys, Fossils, Shell, Bone, Broken Pipes, Vases, Jugs, Veneer, &c.; Cigar Holders, Picture Frames, &c.; and for fastening Tips on Billiard Cues is unrivalled.



SHOW CARDS, LARGE ILLUSTRATED HANDBILLS, OR GLASS TABLETS, UNITED WITH THIS CEMENT, FOR THE WINDOW OR COUNTER, FORWARDED ON APPLICATION.



Retail Price One Shilling per bottle.

Genuine Leeming's Essence, Bateman's Pectoral Drops, Dr. Green's Royal Antiscorbutic Drops, Antakos, &c., &c. SOLE AGENTS for Burt's Liquid Blister, James Dalby's Carminative, Marshall's Cerate, Powell's Electuary, Sweeting's Elixir, James' Fever Powder (by Kiddie), the New Remedy for Headaches "Eucalyptera," &c. SPECIAL AGENTS for Sir James Murray's Fluid Magnesia, Bailey & Co.'s Trusses and Elastic Goods, Coate & Co.'s Toothbrushes, Barlett's Pile Suppositories, Horford's Acid Phosphates, Baker's Emulsion of Cod Liver Oil, Dolby's Beef Tea Extractors, Sandford's Rail Cal Cure, Cuticura, &c.

SPECIAL AGENCIES UNDERTAKEN

For Home or Foreign Proprietary Articles

ON THE MOST FAVOURABLE TERMS.

Net List for Monthly Payments, or Gross List for Six Months' Current Account, will be forwarded Post Free on receipt of Business Card. EXPORT ORDERS PROMPTLY AND CAREFULLY EXECUTED.

INDENTS SENT THROUGH MERCHANTS SHOULD BEAR OUR NAME.

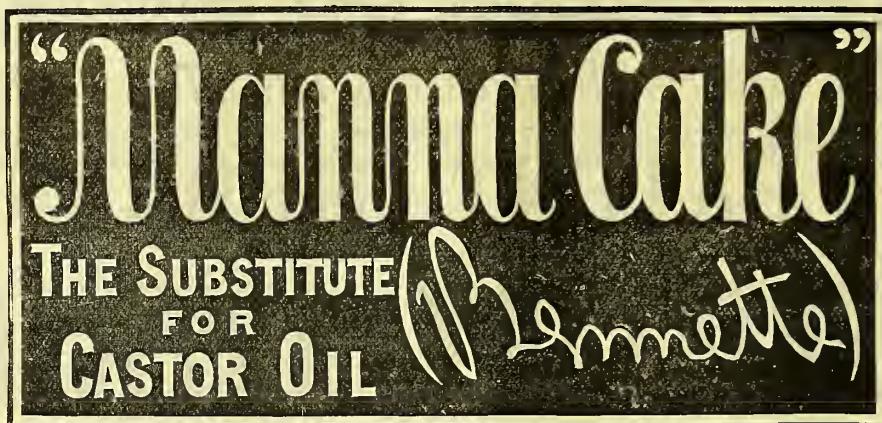
BARCLAY & SONS, 95 FARRINGDON STREET.

TO BRITISH, COLONIAL, AND FOREIGN CHEMISTS.

RECOMMENDED BY THE FACULTY.

Price—
12/-
per
Gross.

Retail,
1½d. each
(18/- per
Gross).



Registered Trade Mark, No. 22,133.

The mildest and most agreeable aperient known. A first-class Family Medicine for every household. Highly approved of by adults; children take it readily and do not suspect its properties. A most suitable aperient for women at all times, and during the whole course of pregnancy. Does not gripe, and leaves no bad effect as Castor Oil does. A digestive tablet and sweet to the taste.

Dr. McCANN, Orchard-Hey, Liverpool, sent the following letter:—December 22, 1880.—“The aperient action of the ‘MANNA CAKE’ is decidedly good. Mildly energetic, free from griping, and to be depended on when a mild but certain aperient is needed. It is also an effectual WORM CAKE. Being pleasant to the taste (it is mainly sugar), its easy administration very strongly recommends its use, especially in fever cases, where all excitement should be avoided.”

TO COLONIAL AND FOREIGN HOUSES.

Terms, 12s. per gross, less discount for cash against shipping documents. A liberal supply of printed matter is included in this, the consignee issuing such as he thinks best. On orders of 20 gross and upwards at a time printed matter is supplied in any language. On orders over 100 gross arrangements will be made for advertising abroad to help the sale.

EXTRACTS FROM LETTERS.

“Please forward me another 4 gross. Its pleasant taste and easy operation constitute it a favourite medicine in my own, as in other families.”

A. T. BORTHWICK, Chemist, Selkirk.

“A Physician in the West of England says he gave Calomel and Jalap in repeated doses without effect, but a MANNA CAKE acted almost immediately.”

“The article is selling freely”

W. H. HAYWARD, Chemist, Trowbridge, Wilts.

“Send another 4 gross. My counter sale last week was over 10 dozen.”

[Fourth order.] JOHN LEA, Chemist, Folkestone.

“It answers the purpose admirably, and gives great satisfaction. It (or you) may justly be called ‘The Children’s Friend.’”

H. T. DOBLE, Chemist, Tavistock.

“It is one of our best preparations.”

HENRY BECK, Chemist, Alblington, Salop.

“The Manna Cake is selling well, and gives great satisfaction. It is an excellent preparation.”

S. STEPHENS, Chemist, Huddersfield.

[Mr. Stephens has contracted for 150 gross.]

“It is singularly mild and efficacious. I certainly consider it a splendid substitute for Castor Oil.”

A. CHRISTIE, Chemist, Newton-Abbot, Devon.

“We find that the Manna Cake sells well, and, so far as we can ascertain, gives great satisfaction. It is taking a good place among the established aperient medicines, and is much liked by children, as well as by adults.”

DAVIDSON & LESLIE, Chemists, Belfast.

“It is with great pleasure I certify to the efficiency of your Manna Cake. It is tempting in appearance and pleasant to taste, and has given every satisfaction; its merits are indisputable; it has wrought wonders in this neighbourhood.”

JOHN SKINNER, Chemist, 558 and 846 Govan Road, Govan

Advertisements will be continued in the Trade Journals until every Chemist feels it to his interest to stock the Manna Cake.

P.S.—There have been over 750,000 Manna Cakes ordered.

WHOLESALE AGENTS.

LONDON—Barclay & Sons; Butler & Crispe; Edwards & Sons; Hovenden & Sons; May, Roberts & Co.; Maw, Son & Thompson; Newbery & Sons; Sanger & Sons; Sutton & Co.; Thompson, Millard & Co.

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COLONIAL—Faulding & Co., Adelaide; Felton, Grimwade, & Co., Melbourne; Elliott Brothers, Sydney; Elliott Brothers, Brisbane; The New Zealand Drug Company, Auckland, Christchurch, and Wellington, New Zealand; Smith, Stanistreet & Co., Calcutta; B. G. Lennon & Co., Cape Colony.

LONDON WAREHOUSE—11 LONG LANE.

WHO ARE PREPARED TO EXECUTE ORDERS TO ANY AMOUNT.

*The MANNA CAKE is sent out in Handsome Decorated Tin Boxes, suitable for display on the Counter.
SHOW TABLETS SUPPLIED FREE ON APPLICATION.*

MAW'S ELASTIC ENEMA APPARATUS,

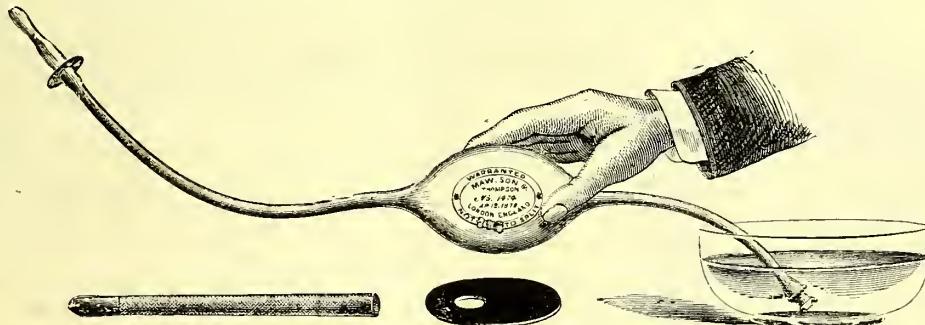
WHITE, GREEN, RED OR BLACK.

IN SLIDE CEDAR BOXES.

See Book of Illustrations, page 329.

Higginson's, Fig. 13	...	...	...	...	...	...	34s. per doz.
Higginson's, Fig. 13 C, Pipes to disconnect...	...	...	...	...	...	34s.	"
Higginson's, Fig. 13 D, Pipes to disconnect, with Elastic-							
Gum Rectum Tube for Children	...	...	...	...	...	42s.	"

The following are made in one continuous piece.



WARRANTED NOT TO SPLIT.

- 1st.—A complete Enema Apparatus, without any metallic connections or wire fastenings whatever, thereby avoiding the possibility of leakage.
- 2nd.—Specially prepared to resist the heat in tropical countries.
- 3rd.—Will not split, become hard, or sticky.

Patented in America, No. 212,939, March 4th, 1879; and in France, No. 126,909, October 11th, 1878.

No. 1A Quality.—Black, Blue, Green, Red, and White Enamelled, in Oval Cloth-	covered Boxes	...	...	...	...	...	per doz.	£2 18 0
No. 1B Quality.—Red and White Enamelled, in Slide Cedar Boxes		...	...	...	...	...	"	2 0 0
No. 2 Quality.—White Rubber, in Slide Cedar Boxes		...	...	...	...	...	"	1 14 0

SPECIAL QUOTATIONS TO WHOLESALE BUYERS.

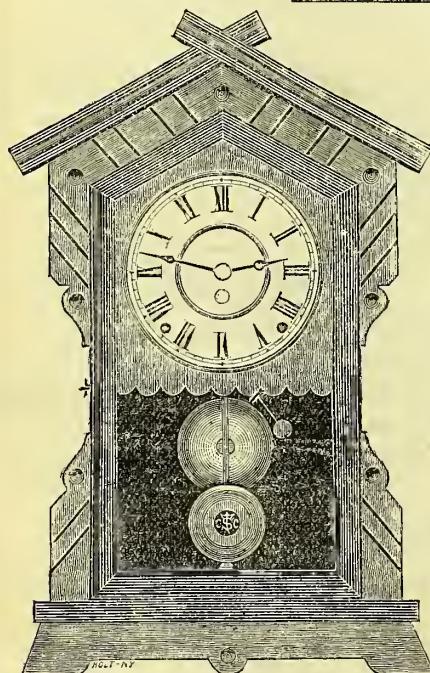
S. MAW, SON & THOMPSON, LONDON, E.C.

VALUABLE PRESENTS FOR SELLING **GORDON'S EXTRACT.**



No. 1.—Silver Electro-plated Tea Pot, on Nickel Silver, handsomely chased, as shown in the cut.

N.B.—We do not bind you to this shape or pattern. We can get you another shape and pattern of equal value.



No. 2.

THE DETROIT CLOCK.

8 day strike.

Walnut Case; Height, 19½ in.;
6-inch Dial.

Manufactured by the celebrated
SETH THOMAS COMPANY,
of Thomastown, Conn., U.S.A.

No. 3.—Cruet Stand, Silver
Electro-plated on Nickel
Silver. Five bottles.

No. 4.—Butter Cooler, Cut or
Frosted Glass Dish, Silver
Electro-plated Plate and
Cover.

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FIG. 13.

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FIG. 100.

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FIG. 8A.

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A Scholarship, value £20, in Human Anatomy and Physiology, to first year's Students.

A Scholarship, value £25, in Anatomy, Physiology, and Chemistry, to second year's Students.

A Scholarship, value £20, in Clinical Medicine.

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A Scholarship, value £20, in Clinical Obstetrics.

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Prizes, value £60, to Dressers of Out-patients in Minor Surgery.

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DAY and EVENING CLASSES for PHARMACEUTICAL STUDENTS are conducted in the Class-rooms and Laboratories, 41 Chambers Street, Edinburgh.

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	Lecturer Ed. Sch. of Medicine.
BOTANY ...	Dr. J. M. MACFARLANE, Royal Botanic Gardens.

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For all particulars apply to Dr. DRINKWATER, Chemical Laboratory, 41 Chambers Street, Edinburgh.

TO PHARMACEUTICAL STUDENTS.

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For all particulars apply to Secretary, Edinburgh School of Pharmacy, Marshall Street, Nicolson Square, Edinburgh.

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THE MEDICAL SESSION COMMENCES ON WEDNESDAY, OCTOBER 1ST.

The Hospital contains, besides the Beds for Medical and Surgical Cases, wards for Obstetric, Ophthalmic, and other special departments.

Special Classes are held in the Hospital for Students preparing for the examinations of the University of London and of other examining boards.

APPOINTMENTS.—The House-Surgeons and House-Physicians, the Obstetric Residents, Clinical Assistants and Dressers, are selected from the Students, according to merit and without payment. There are also a large number of Junior Appointments, every part of the Hospital Practice being systematically employed for instruction.

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PRIZES, &c.—Six Scholarships, varying in value from £10 to £50 each, for general proficiency in Medical Study. The Treasurer's Gold Medal in Medicine; the Treasurer's Gold Medal in surgery; the Gurney Hoare Prize of £25, for Clinical Study; the Beaney Prize of 30 guineas for Pathology; the Sands Cox Scholarship of £15 per annum for three years, for Physiology; the Joseph Hoare Prize of £25 and £10; the Michael Harris Prize of £10, for Anatomy; the Mackenzie Bacon Prize of £10 for Ophthalmoscopy; the Mackenzie Bacon Prize for Nervous Diseases, of £15; the Burdett Prize for Hygiene, value £10.

For prospectus and further information apply to the Dean, Dr. F. Taylor, Guy's Hospital, London, S.E.
July 1884.

THE CENTRAL SCHOOL OF CHEMISTRY AND PHARMACY, 173 MARYLEBONE ROAD, N.W.

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FOR PROSPECTUS AND FULL PARTICULARS APPLY TO MESSRS. LUSS AND WOODLAND.

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The NEW SESSION, 1884-85, commenced on MONDAY, 1st INST., with TWO DISTINCT SETS OF CLASSES, viz., a Short Course for the October pupils, and an Entire Course for those preparing for December.

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Established in 1878.

The SESSIONS of this School commence on 1st of OCTOBER NEXT; 5th of JANUARY, and 4th of MAY, 1885.

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185 St. George's Road, West Hill, Hastings.

INDEX TO ADVERTISEMENTS,

Pages 39 and 40.

Pharmaceutical Society of Great Britain.

SCHOOL OF PHARMACY.

The Session will commence on October 1, 1884, and end on July 31, 1885.

On Wednesday, October 1, at 8 P.M., the Introductory Address to the Students will be delivered by W. THISTLETON DYER, M.A., F.R.S., F.L.S.

LECTURES ON CHEMISTRY AND PHARMACY

Will be delivered by PROFESSOR REDWOOD and MR. WYNDHAM R. DUNSTAN, F.C.S., on Monday, Tuesday, and Wednesday mornings at 9 o'clock, commencing on Wednesday, October 1st, at 9 o'clock.

These Lectures comprise the following subjects:—

1. An exposition of the physical forces involved in chemical and pharmaceutical operations and changes.
2. The chemistry of inorganic bodies, including a description of the elements and their more important inorganic compounds, especially those used in medicine.
3. The chemistry of organic compounds, with a description of such as have important applications in the arts and in medicine.

The subjects are fully illustrated with experiments, diagrams, and specimens, and examinations of the class are held on those subjects which have been previously treated of in the lectures.

Additional lectures upon Chemistry and Physics are also delivered by Mr. Dunstan during the course.

The class in Practical Dispensing and the Reading of Prescriptions is conducted by Mr. Joseph Ince, and meets twice a week, at 5 P.M.

LECTURES ON BOTANY & MATERIA MEDICA

By PROFESSOR BENTLEY, on Thursday, Friday, and Saturday mornings, at 9 o'clock, commencing on Friday, October 3rd, at 9 o'clock.

These Lectures comprise the following subjects:—

1. Structural and Physiological Botany, which is especially adapted to meet the requirements of pharmaceutical students.
2. Organic Materia Medica, comprising the medicinal substances obtained from the organic kingdom, which are considered in the order of the natural historical relations of the organised beings which produce them.

3. Systematic and Practical Botany, which is taught during the summer months in the Royal Botanic Society's Gardens, Regent's Park.

All the Lectures are fully illustrated by every means to which recourse can be had, including fresh, dried, and preserved portions of plants, together with their products and secretions; and by an extensive series of drawings, diagrams, and preparations, as well as by experiments and microscopical preparations.

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The Laboratories, for the Study of PRACTICAL CHEMISTRY,

Will be opened on Wednesday, October 1, at 10 A.M., under the direction of PROFESSOR ATTFIELD, F.R.S., assisted by the Demonstrator, MR. F. W. SHORT, and the Assistant-Demonstrator, MR. E. J. EASTES.

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With a view of testing and maintaining the progress of Students the Professor holds examinations frequently. He expects all Pupils to attend these classes.

Prospectuses and further particulars may be had of the Professors or their Assistants, 17 Bloomsbury Square, London, W.C.

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MAJOR.

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MINOR AND MAJOR.

Twelve months' course	£15	15s.*
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Director... G. S. V. WILLS, F.L.S., F.R.M.S.

The Thirteenth Session commenced on Monday, September 1st.

The Pharmaceutical portion of the Instruction in this College is equal to that of any other School. The success which always attends Students presenting themselves from this School furnishes a sufficient test of the thoroughness of the education imparted.

PASS LIST FOR THE SESSION 1883-84.

October.	December.	February.	April.	June.	July.
MAJOR.	MAJOR.	MAJOR.	MAJOR.		
Mr. E. J. Evans " W. Longtoft	Mr. H. S. Collins " T. S. Cornwell " W. T. Sergeant	Mr. T. Randall	Mr. S. Marshall		
MINOR.	MINOR.	MINOR.	MINOR.	MINOR.	MINOR.
Mr. F. Barton " W. H. Beck " G. W. Briggs " J. W. Burn " W. Cole D. Davies C. A. Hedley R. S. Hutton J. L. Jones J. H. Jones J. R. Jones " S. Marshall D. J. Owen H. T. Price F. A. Rutherford S. Sharp A. N. Smith C. L. Smout " J. E. Turner T. S. Wokes	Mr. G. H. Bradford " E. M. Brown " H. R. Dornung " E. H. Taylor " Richard Brown " Walter Jackson " A. E. Smith " R. H. Playford " Chas. Ray " John Richardson " R. Roberts	Mr. J. Alderton " S. Arthur " W. Barratt " J. Bates " S. G. Baker " W. J. Baker " J. Black " T. Cockerell " W. C. Collen " W. Cumberbirch " R. O. Hayes " G. G. Jackson " B. John " J. P. Leach " A. Mackay " W. H. Miller " R. Parry " J. Peacock " J. H. Potter " G. Sapsod " J. R. Shallcross Mrs. M. A. Sinclair Mr. C. B. Sonthwell " W. Spratling " E. Wooley	Mr. W. G. Atkinson " G. M. Dunn " J. Christie " B. Carter " G. P. Chifney " H. F. Drake " J. W. S. Freshney " F. O. Golding " T. Groves " G. E. Hare " A. M. Hickley " G. Hodgeson " T. Jenkins " T. Lewis " J. F. Marlar " H. E. Russell " W. G. Skouling " J. A. Sutcliffe " J. W. Taylor " A. Tennart " E. H. Tugwell " L. Verdon	Mr. J. E. S. Burn " C. G. Davies " J. R. Evans " L. J. W. Jones " W. G. Sloan " G. Stevenson	Mr. A. Banks " W. Barker " T. N. Brooke " B. H. Butler " W. Clarke " C. Ellis " H. C. Glanville " W. H. Godslane " E. E. Hall " J. H. Hopper " A. J. Hemstead " J. Hulland " S. Huggins " G. Jacques " J. K. Jones " R. M. Lewis " C. O. Morrison " G. Moor " G. Neale " J. Newton " F. Rockledge " F. T. Sanders " B. Smith " J. Sturdy " W. Sumner " T. E. Taylor " A. Waldron " H. P. Withers " H. E. Young

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T O T A L S :

MAJOR 7.

MINOR 114.

PRELIMINARY 19.

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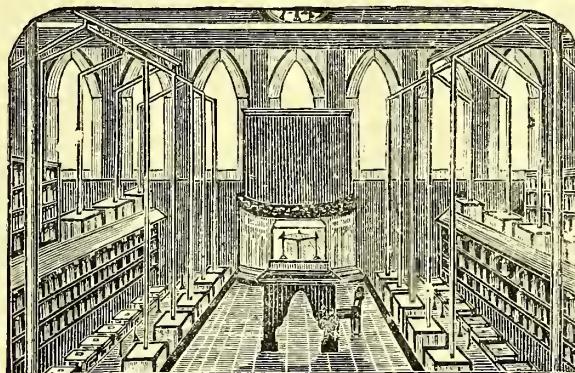
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The following Extracts from the new Circular and Pass Lists are published in order to make as widely known as possible the distinctive characters of Mr. Turner's system of instruction.

MR. TURNER's desire is that the School he conducts may be known as one where the student who wishes to enter for the Examinations of the Pharmaceutical Society may receive the requisite instruction in a thorough and systematic manner.

This design is carried out by means of a system of small classes, with question and answer passing round, and discussion of doubtful points, among the students; thus ensuring attention to the matter in hand, and giving students that practice in the expression of their ideas, which is especially useful to those who are studying for "Viva Voce" Examinations, and enables them to discover and rectify mistakes, while students who attend lectures and are only occasionally questioned go on in blind confidence, and only discover their deficiency in the Examination Rooms (not always then, and so charge a failure due to their own incompetence to the "unfairness of the examiners").

Mr. TURNER, having had large and long experience in teaching, is able to adapt and explain obscure subjects, and he is not unfrequently assured that he has made intelligible things which have long been studied in vain in books or postal systems.

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PRACTICAL DISPENSING.—Each student copies "Dispensing Notes," and makes Emulsions, Mixtures, Blisters, Pills, Plasters, Suppositories, &c., &c.; and, when necessary, is instructed how to label, finish, and direct the various packages.

PHARMACY.—All processes for making P.B. and other preparations are systematically taught, and fully discussed and explained. Doses and strengths, &c., are noted.

MATERIA MEDICA.—The very complete collections belonging to the School much facilitate the study of this subject. Many useful notes on the drug trade are given. Geography and Classification receive due attention.

BOTANY is made as practical as possible by the free use of the Herbarium, Charts, Microscope, Specimens of Woods, Fruits, &c.; also by occasional visits to the Botanical Gardens of the Lancashire Horticultural Society, at Old Trafford (Mr. Turner being a subscriber), by botanizing excursions elsewhere, by flowers, fruits, &c., bought in the city, and by Parcel Post supplies from the country.

CHEMISTRY.—This subject is in every sense most important, and receives double attention, viz.:—The matter in hand is first fully explained and discussed in the class, equations and calculations are shown and done by the teacher and students, with frequent reference to book work; then every student himself performs in the Laboratory the analytical and synthetical reactions, each man working independently. Many important or "show" reactions are shown and explained by the teachers.

PHYSICS and METRIC SYSTEM are thoroughly and clearly explained, their rules and applications discussed, processes and calculations are worked out.

The present Session began on MONDAY, AUGUST 18th, and there are now (September 12) only a few vacancies in the Classes for the December Examinations, and NONE in those for October.

The Classes now at work include Full Time, Afternoon and Evening Classes for the MINOR.

Full Time and Evening Classes for the MAJOR.

Afternoon and Evening Classes for the PRELIMINARY.

These sets of Classes are each quite distinct from the others, so that students can join those which best suit their own arrangements.

The School being now well attended, the classes are, many of them, so divided that advanced students are not retarded, nor backward ones unduly hurried to keep pace with the average of the class, but every man can receive the full amount of time and attention he requires, and can proceed as rapidly as is consistent with safety.

Mr. GEORGE CLAYTON, who takes the junior men, studied for his own examination at the Manchester College, so is well qualified for the post; and already (June, 1884) has made himself esteemed and valued in class-room and in laboratory by his ability and attention.

The visiting master who conducts the preliminary classes was selected from many candidates, he has excellent references, large experience, and his pupils make very fair progress in their work.

MANCHESTER PASS LIST, From December 1882, to June 1884.

List of Students who have passed the Minor Examination through Mr. TURNER's instruction. With only a few exceptions, they all passed at their first or second trial, and without any other assistance.

LONDON, DECEMBER, 1882.—No. examined, 109; No. passed, 49. Five of Mr. Turner's men were examined: All passed, viz.:—
Mr. W. G. Blackham, Liverpool.
" T. E. Eastwood, Skelmersdale.
" W. F. Goodwin, Norwich.
" J. G. Isaac, Strud.
" E. Ryley, Louth.

EDINBURGH, JANUARY, 1883.—No. examined, 49; No. passed, 29. One of Mr. Turner's men was examined: he passed, viz.:—

Mr. R. W. Kaine, Newcastle-on-Tyne.
LONDON, FEBRUARY, 1883.—No. examined, 84; No. passed, 28. Four of Mr. Turner's men were examined: Two passed, viz.:—

Mr. A. Barlow, | *Mr. J. H. Hadfield, Manchester.
LONDON AND EDINBURGH, APRIL, 1883.—No. examined, 166; No. passed, 75. Five of Mr. Turner's men were examined: Three passed, viz.:—

Mr. M. H. Campion, Threshby.
" A. W. W. Thomas, Bala.
" L. L. Thomas, Bala.

LONDON AND EDINBURGH, JULY, 1883.—No. examined, 186; No. passed, 70. Eight of Mr. Turner's men were examined: Four passed, viz.:—

Mr. J. Arthur, Chesterfield.
" H. Collins, Ashton-under-Lyne.
" W. Crompton, Bury.
" J. W. Kay, Manchester.

LONDON AND EDINBURGH, OCT., 1883.—No. examined, 145; no. passed, 58. Three of Mr. Turner's men were examined at London: All passed, viz.:—

Mr. A. H. Boyden, Burnley.
" Geo. Clayton, Manchester.
" J. Gitson, Barnard Castle.

EDINBURGH.—The Two undernamed passed:—
Mr. T. H. Bostock, Eastwood.
" H. Jackson, Manchester.

EDINBURGH, JANUARY, 1884.—No. examined, 41; No. passed, 27. Four of these had studied at "The Manchester College," viz.:—

Mr. C. Campbell, Manchester.
" A. E. H. Blackburn, Eccles.
" J. H. Morris, Bolton.
" D. Patterson, Bolton.

Three of these were "Afternoon Class" Students.
* Evening Class Students.

In the last Five Examinations held in London and in Edinburgh, viz.: January, February, April, June, and July, Fourteen Students from this School passed the Minor, and Two passed the Preliminary, viz.:—

MINOR.
EDINBURGH, JANUARY, Four, viz.:—

Mr. C. Campbell, Manchester.
" A. E. H. Blackburn, Eccles.
" J. H. Morris, Bolton.
" D. Patterson, Bolton.

Three of these were "Afternoon Class" Students.

One passed in December, 1883, viz.:—
Mr. J. Tallantyre, Manchester.

LONDON, FEBRUARY.—Two, viz.:—
Mr. W. Duckworth, Blackburn.
" F. Jackson, Manchester.

One passed at Apothecaries' Hall, viz.:—
Mr. D. H. Oxen, Tynemouth.

LONDON AND EDINBURGH, APRIL.—Four, viz.:—
Mr. W. Aspinall, Plat Bridge.
" E. S. Barlow, Oldham.
" F. Ridgough, Leeds.
" Albert Smith, Stockbridge.

JUNE.—One, viz.:—
Mr. F. A. Astley, St. Anne's-on-Sea.
LONDON AND EDINBURGH, JULY.—Three, viz.:—
Mr. T. E. Barras, Peterborough.
" R. Knowles, Darwen.
" J. G. Rowell, Leeds.

PRELIMINARY.
APRIL.—Mr. T. E. Greenhaigh, Blackpool.
JULY.—Mr. W. R. Turner, Stockport.



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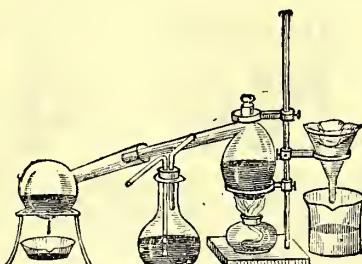
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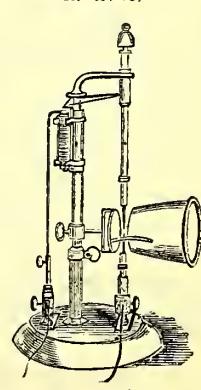
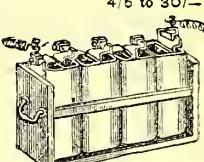
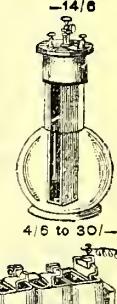
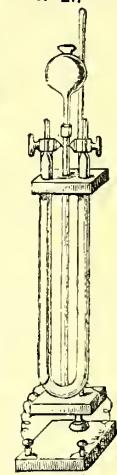
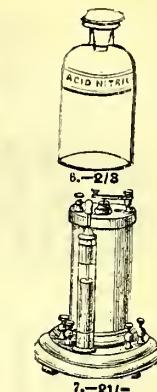
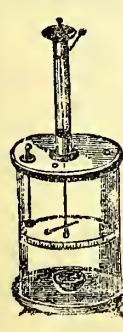
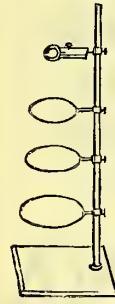
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In 2 oz. Bottles.

In reputed $\frac{1}{2}$ -Pint, Wickered.

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In reputed Quart, Wickered.

In 8 oz. Bottles.

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JULICH'S PLATZ No. 4,
COLOGNE - ON - THE - RHINE.

By Special Appointment to the Prince of Wales and to several Imperial and Royal Courts.

Possessor of PRIZE MEDALS and DIPLOMAS of the Exhibitions at LONDON, 1851; NEW YORK, 1853; LONDON, 1862; OPORTO, 1865; CORDOVA (Argentine Republic), 1871; and at VIENNA, 1873; SANTIAGO (Chili), 1875; PHILADELPHIA, 1876; CAPE TOWN (South Africa), 1877 (Gold Medal); SYDNEY, 1879; and MELBOURNE, 1880.

Sole WHOLESALE Agents for the United Kingdom and Colonies,

FICKUS, COURTENAY & CO.

ST. DUNSTAN'S BUILDINGS, GREAT TOWER STREET, LONDON.

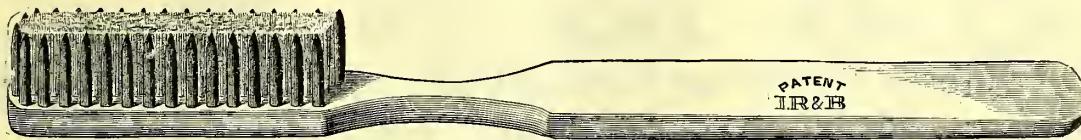
PATENTED IN ENGLAND, FRANCE, AND AMERICA.

S. MAW, SON & THOMPSON'S

ROYAL PATENT

I. R. & B. TOOTH-BRUSHES,

MADE OF INDIA-RUBBER & BRISTLES.



PRICE TO THE TRADE, 8/- PER DOZEN.

From THE JOURNAL OF THE BRITISH DENTAL ASSOCIATION, Jan. 15, 1884.

NEW INVENTIONS.

MESSRS. MAW'S PATENT I. R. & B. TOOTH-BRUSHES.

WE have received from Messrs. Maw & Co., of Aldersgate Street, specimens of a new pattern Tooth-brush, with the above designation, which they are about to bring under the notice of the profession. The initials refer to the "India Rubber and Bristles," of which the brushes are composed. They consist of a narrow bristle brush of the ordinary type, surrounded by a single row of stems of soft red rubber of nearly the same length. They are both efficient and pleasant to use, and we should anticipate that the superior durability and elasticity of the rubber will afford so much support to the bristles as to keep them in shape and working order for a much longer time than an equally soft ordinary bristle brush would wear. The chief object of the rubber addition is, however, to prevent abrasion of the gums, and it appears to answer this purpose very satisfactorily. To persons with tender, or partially edentulous mouths, brushing the teeth is an unpleasant and even painful operation; Messrs. Maw's brushes will certainly reduce the discomfort in such cases to a minimum.

MANUFACTURED BY

S. MAW, SON & THOMPSON, 7 to 12 Aldersgate Street, London.

TRADE MARKS—BULL AND BULL'S HEAD.

S. R. STEWART & CO.,

ABERDEEN COMB WORKS, ABERDEEN.



TRADE MARK.



AWARDED THE ONLY FIRST PRIZE MEDALS at London, 1862; Vienna, 1873; Paris, 1878; Sydney, 1879; Melbourne, 1880; Adelaide, 1881; Amsterdam, 1883; Calcutta, 1884, for

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Real and Imitation Tortoiseshell, Buffalo, Rhinoceros, and pure White Horn.

DRUGGISTS' SCOOPS & SPOONS, FRUIT KNIVES, PAPER-CUTTERS,

AND ALL OTHER HORN GOODS. THE TRADE ONLY SUPPLIED.

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NORINA'S EMOLlient,

Prepared from the Recipe of the late Dr. ANDERSON, produces a lovely complexion. It is elegantly perfumed, without sediment, and perfectly harmless. One of the best preparations before the public. Largely advertised and in great request. 4/6 each.

Agents—Messrs. NEWBERRY, King Edward Street,
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COOL TO THE HEAD, EFFECTIVE
AND INVIGORATING

TRADE MARK

ASHWORTH'S PATENT METALLIC COMB-BRUSH AND METALLIC-BRISTLE COMB-BRUSH.

These brushes are delightfully cool to the head, producing a most agreeable sensation, and will penetrate the most luxuriant hair without injury. These handles are also in solid pieces, and hence will not fall apart as in the case of brush handles covered with veneer. The latter brush shows a most remarkable development in metallic brush making. It is made of fine tempered steel wires, about the thickness of ordinary brushes. This penetrates, SMOOTHES, and FIXES THE HAIR. It is, to express the words of a user, "Simply perfection as a hair brush, and must, when known, take the place of the bristle brush for toilet uses." Send for a SAMPLE BY POST AND TRY IT.

Prices of Metallic Comb-Brush, post free.

Ladies' and Gentlemen's Black Japan 1/9, 2/3, 2/9
Gentlemen's Black Japan, Military Style 2/0, 2/6, 3/0

Dog, Cattle, and Horse Brushes 2/0, 2/6, 3/0

Prices of Metallic-Bristle Comb-Brush, post free.

TEMPERED FINE STEEL WIRE.

Ladies' and Gentlemen's Black Japan 2/4, 3/0, 4/0

" Ivory-coated 2/8, 3/6, 4/4

Gentlemen's Black Japan, Military Style 2/8, 3/6, 4/4

The "Humanitas" Curry Comb Brush, for Horses, Dogs, Cattle, &c.—Prices:

Made of iron wire, covered with white metal—No. 1, 1/6 each.

" fine steel wire, covered with white metal—No. 0, 1/16; No. 0, 2, 2/0 each

All Goods are forwarded safely packed in neat Box.

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SHIPPIERS.

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Retail, 1/-, 1/9, and 3/6; Wholesale, 9/-, 15/-, and 30/- per doz.

This much-admired Perfume (prepared by the Widow of the late Joseph Okell), may be obtained from the leading Patent Medicine Houses, Wholesale Druggists, and Druggists' Sundry Dealers.

Applications for WHOLESALE Agencies to be made to the SOLE CONSIGNEE, THOMAS WEST, Chemist, 61 Chester Road, Stretford, Lancashire.

CHUBB'S Best SEIDLITZ POWDERS

—Full Weight—Loose, at 7s. per gross; in lift-off boxes, 7s. 6d., and in hinged boxes, 8s. 6d., per dozen.

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(WARRANTED PURE STARCH POWDER).

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In 1d. Boxes, 5s. gross, and 2d. Boxes, 9s. 6d. gross, and in 3d. and 6d. ROUND Boxes, 1s. 9d. and 3s. dozen.

SUBJECT TO 15 PER CENT. DISCOUNT FOR CASH.

May be obtained through all the Wholesale Houses, or direct from

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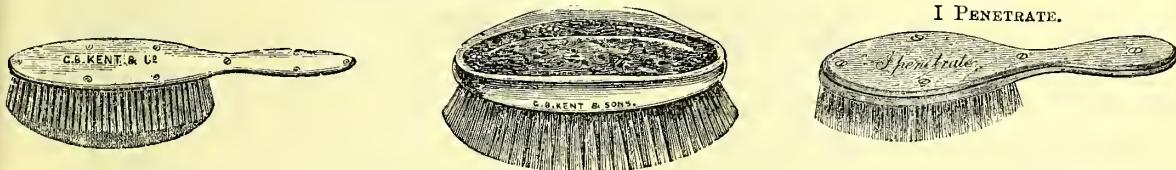
SPECIAL QUOTATIONS FOR LARGE QUANTITIES.



G. B. KENT & SONS, LONDON. BRUSHES.

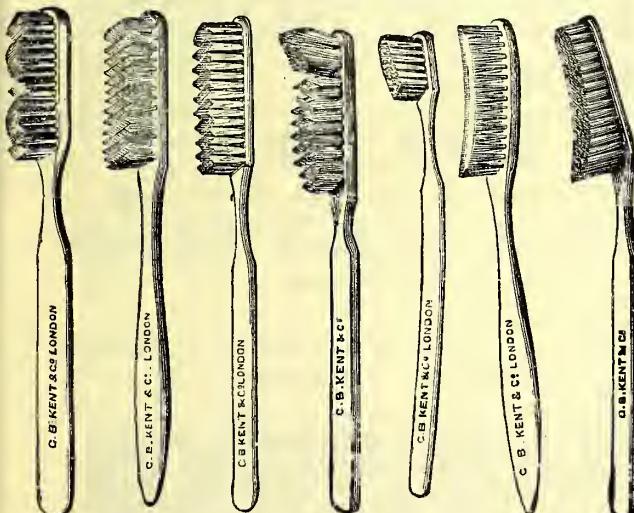
Offices: 11 Great Marlborough St., London, W. Factories: 46 Bonner Road, London, E.

CALCUTTA EXHIBITION, 1884, GOLD MEDAL.



KENT'S TOOTH BRUSHES.

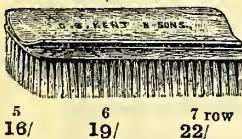
N.B.—Special Factories at Victoria Park are set apart for this one description of Brush.



	C. B. KENT & CO.		Price per doz.
First Quality	G. B. KENT & CO.	London	6/6
Second Quality	Imperial	Quality	5/0
Third Quality	WARRANTED	LONDON	4/0
Fourth Quality	WARRANTED	SECURE	3/6
Fifth Quality	WARRANTED	SOUND	3/0
Badger Hair Tooth Brushes ..	..	4/6 6/0 8/6 11/0 per doz	
Children's ..	..	3/0 3/6 4/0	"
Tooth Brush Guards	Metal, 2/8 Porcelain, 4/6	"
Japanned Wet Brush Holder	3/0 5/6 6/0 13/0	"

KENT'S NAIL BRUSHES.

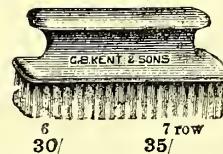
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ROACHED AND GROOVED.



HUMP NAIL BRUSH, SATINWOOD.



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CAUTION.

A. S. LLOYD'S EUXESIS,

FOR SHAVING WITHOUT SOAP, WATER, OR BRUSH.

The GENUINE Euxesis bears the following distinctive marks :—

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Manufactured only by AIMÉE LLOYD,
WIDOW OF A. S. LLOYD, formerly of 27 GLASSHOUSE STREET,
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A. S. LLOYD'S EUXESIS,

For Shaving without Soap, Brush, or Water.

CAUTION.

The only Genuine has a yellow label printed ONLY in Black Ink, and bears the original address of the late inventor, “27 Glasshouse Street, Regent Street,” the proprietors having purchased, under an administration suit, the Secret, Trade Mark, Goodwill, and Premises.

SOLE PROPRIETORS,

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LONDON.

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THE MOST PLEASANT MODE OF APPLYING IT TO SKIN IS BY THE
PANSTREPTON (or All-Pliant) **FLESH BRUSH.**

The best Article ever introduced for the purpose.

PRICES FROM 22/- to 36/- per doz.

Of all WHOLESALE HOUSES or of the SOLE MANUFACTURER,
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FOULKES' CEMENT, **AS USED AT ALL THE GOVERNMENT MUSEUMS.**

Suited for any substance, from glass and china to leather, wood, or iron, and the articles joined bear washing in boiling water.

The large range of materials to which this cement is applicable, its transparency, strength, and facility in use, and the readiness with which it adheres, renders it, without doubt, THE MOST USEFUL EVER INVENTED. It is equally applicable to articles of the coarsest or the most delicate construction. The great success which attended its introduction, now more than 20 years ago, has given rise to a host of imitations, under as many various titles, some of these being of an exceedingly crude character, and most unsatisfactory to both vendor and buyer. The above celebrated Cement is uniformly prepared and neatly put up, and is guaranteed to remain unchanged in any climate.

Professor ARCHER, Edinburgh.—“I can testify most unhesitatingly to its great utility in the various occasions which continually arise in Museum work for a first-rate Cement. I have invariably found yours superior to all others, and have extensively recommended its use to all my friends.”

Sold in bottles at 6d. and 1s. (equal to three of the smaller).

FOULKES' TOILET & NURSERY POWDER.

IMPALPABLE AND DELICATELY PERFUMED.

This unique Powder possesses the emollient properties of Fuller's earth, free from colour, and in a high condition of purity. Dr. ALEX. MILNE, Edinburgh, in his recent hook entitled : “The Child, and how to Nurse it,” says of this favourite powder, “WE RECOMMEND IT IN PREFERENCE TO ALL OTHERS.”

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W. J. FOULKES, OPERATIVE CHEMIST, BIRKENHEAD.

OSCAR SUTTON & CO., PRESTON, LANCASHIRE.

CAUTION AGAINST IMPOSITION.

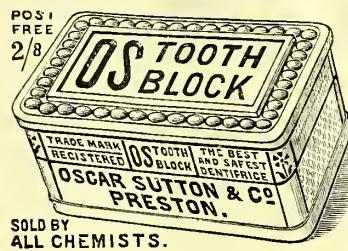
O.S. TOOTH BLOCK.

Be particular to observe that the Registered Trade Mark and the name "OSCAR SUTTON & CO." are stamped on all that are genuine, as worthless imitations are in the market.

REGISTERED



TRADE MARK.



SOLD BY ALL CHEMISTS.

BEST & SAFEST DENTIFRICE

SOLD BY ALL CHEMISTS
AND PERFUMERS, IN
ELEGANT CRYSTAL
TOILET CASKET

PRICE 2/6.

ALSO IN PATENT
METALLIC BOX

PRICE 1/-



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Dr. J. J. Pope, M.R.C.S., L.S.A., Professor of Hygiene, Birkbeck Institute, Lecturer on the Special Staff of the National Health Society, London (author of "Number One, and How to Take Care of Him").

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An Upper or Lower Set, inclusive of Teeth Rubber, &c., £1 1s. Ditto, ditto, on Platina, £2 2s.

Send for Price List.

Twenty years' experience in mechanical work.

LESSONS GIVEN IN MECHANICAL DENTISTRY.
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Dr. C. R. Coffin's AMERICAN DENTIFRICE.

Prepared only by WILLIAM DARLING, Chemist, Manchester. May be had from S. Maw, Son, & Thompson; Barclay & Sons; F. Newbery & Sons; Sanger & Sons; and any Wholesale House in London. Price 2s. per Box, and Family Jars 10s. each.

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N.B.—The new 2/- size is intended for dentists, for use in plugging, and for domestic use in families.

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Wrapped in blue paper with yellow labels, the Government Stamp signed RUSPINI.

The Proprietor desires to thank the Retail Trade for the assistance which has been given to him.

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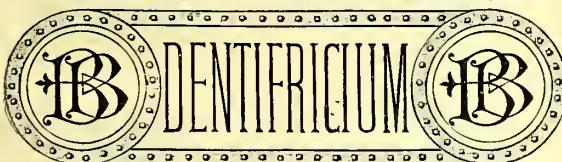
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Price, 6d. and 1/- per Pot.

Sold by all Wholesale Houses.

Title Secured. Price 2/6. Cases of Six, 14/-



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INVENTED BY A TALENTED PHYSICIAN.

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(In Aid of the Funds of which the Exhibition is held).

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THE PRIMARY OBJECT of this Exhibition is to augment the Funds of the UNIVERSITY COLLEGE HOSPITAL, at the same time to bring before the Professions and Trades interested, and the general public, the particular Specialities of each class of Exhibitors, affording an unusual opportunity for the introduction and publicity of Improvements and new Inventions of a technical and scientific character.

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Will be Opened on OCTOBER 13th, 1884, and remain open until NOVEMBER 12th, 1884,

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— 1885, —
NOW READY.

Send Stamp for Sample.

CHEAPEST HOUSE
FOR COUNTER BILLS

10,000	7½ by 5 in.	14/0
10,000	9 by 5½ in.	19/0

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INDEX TO ADVERTISEMENTS,

Pages 39 and 40.

1884. **EIGHTEENTH SEASON.**

THE

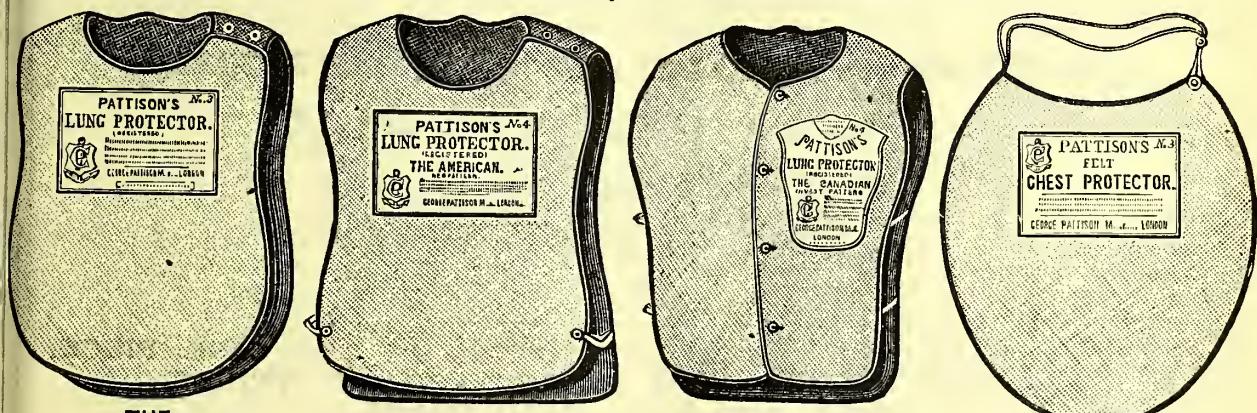
LUNG PROTECTOR

(REGISTERED).

REGISTERED
LUNG
PROTECTOR
TRADE MARK

"An Article of Acknowledged Excellence."

The "LUNG PROTECTOR" continues to be made only from the same Fine Soft Wool which has always been used since its introduction 18 years ago. Chemists are cautioned against the mendacious assertions of unscrupulous persons who push upon them coarse and inferior imitations, the sale of which can only lead to ultimate loss of trade.



THE LUNG PROTECTOR. LUNG PROTECTOR. LUNG PROTECTOR. CHEST PROTECTOR.
ORIGINAL PATTERN. THE AMERICAN. THE CANADIAN.

PRICES :

	No. 0	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	per doz.
Original Pattern, Seven sizes	14/-	18/-	26/-	34/-	42/-	52/-	60/-
The American, Six sizes	20/-	28/-	36/-	44/-	54/-	62/-
The Canadian, Six sizes	22/-	30/-	40/-	50/-	60/-	70/-

FELT CHEST PROTECTORS.

	No. 00	No. 0	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	per doz.
Prices...	4/-	6/-	8/-	10/-	12/-	18/-	20/-	24/-

All in Scarlet and White, and made in same Wool as the "Lung Protector."

Terms : All Wholesale Houses either allow a large Discount for Cash, or quote the goods at Reduced Net Cash prices.

FELT CHEST PROTECTORS, C QUALITY, single and double, each in five sizes.

At lower prices than above, and equal to BEST of other makers, but are NOT recommended.

GEORGE PATTISON,

INVENTOR AND MANUFACTURER,

139 ST. JOHN STREET ROAD, LONDON, E.C.

SPONGES.

R. CRESSWELL & CO.,

SPONGE IMPORTERS & MERCHANTS,

32 Red Lion Square, London;

AND AT PIRÆUS AND SMYRNA.

ESTABLISHED 1850.

PRIZE MEDALS AWARDED:



**SPONGES OF EVERY KIND AND DESCRIPTION BY THE CASE, PIECE,
OR WEIGHT, SANDLESS OR IN SAND, OR ON STRINGS,
CARDS, AND BLUE CARD BOXES.**

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THE ORIGINAL
ARNICATED
 WHITE FELT
CORN AND BUNION PLASTERS.
 INVENTED AND ESTABLISHED BY
HENRY YOUNG,
 A.D. 1846,
 AND FAVOURABLY KNOWN ALL OVER THE GLOBE.

PRICES—

Arnicated White Felt Corn Plasters.

Thin, 12 in box (round 6d. boxes) ...	2/4 per doz. boxes.
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Thick, 1 gross in glass-top box ...	3/0 "

Arnicated White Felt Bunion Plasters.

Small Thin, 6 in box (round 6d. boxes) ...	2/4 per doz. boxes.
Thick, 6 in box (original 1s. fancy boxes) ...	3/8 "
Large Thin, ½ gross in box ...	4/6 per gross.
Thick, ½ gross in glass-top box ...	6/0 "

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N.B.—Please see that YOUNG'S Goods are supplied, as there are many worthless imitations.

Manufactory, 72 Clerkenwell Road, London, E.C. (late of CARTHUSIAN STREET).



Prepared only by the Inventors, J. HARGREAVES & SON,
 Chemists, 108 Fylde Road, Preston.
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 Sold by all Patent Medicine Warehouses and Druggists' Sundriesmen.
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Used and recommended by
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 A PAINLESS & UNFAILING
 REMEDY.

This preparation has the
 advantage over similar
 preparations in being quite
 painless. After 2 or 3
 applications the Corn—
 which will be destroyed—
 can be easily picked out,
 leaving the part healthy
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 It is put up in cases contain-
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 Camel-hair Pencil, fixed, in
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Sample free by post, 7d.



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 ORIENTAL TOOTH PASTE.

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The original and only genuine is manufactured solely by

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 CHEMISTS, MANCHESTER,**

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Is made by the Old English Process, and perfectly free from the rank smell and irritating effects of the cheap imitations. To meet the Retailer's requirements for this special kind of Pure Soap, which can be sold with a Good Profit, and compete with the Stores' Prices. We beg to notify that we are now supplying this Soap at the following low prices, and confidently solicit orders:—

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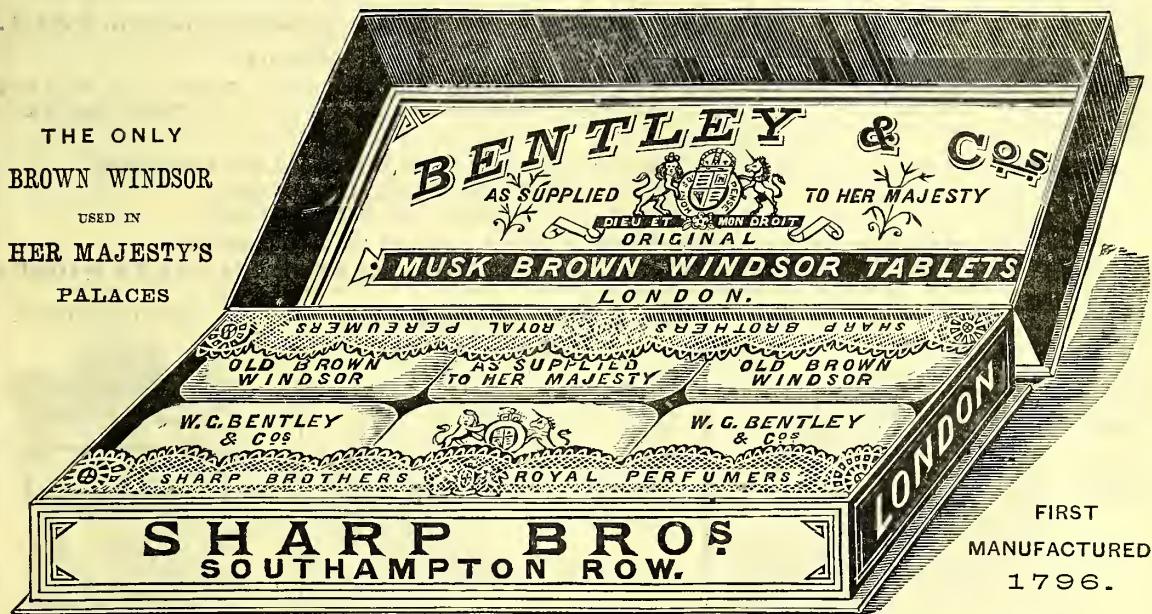


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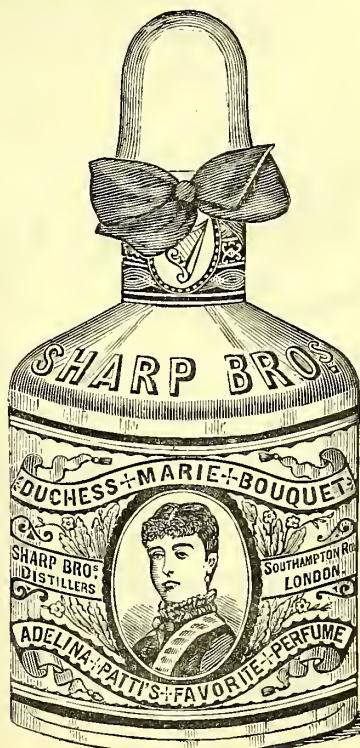
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To Messrs Sharp Brothers
July 4 1882.
Sharp Brothers,
I have much pleasure in certifying
that "Bentley's Brown Windsor" supplied
solely by me to Buckingham Palace,
was the one selected for the use of
Her Majesty and the Royal Family.
Its fragrant and delicate perfume
combined with its valuable
tonic qualities have ensured
the approbation and constant use
of Her Majesty and her Court.
John Reddard
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Attended to the Queen.

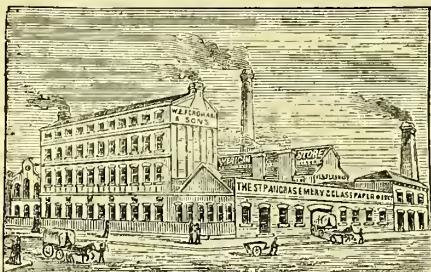
Grosvenor Lodge,
Belgrave S.W. June 15. 1882.
Gentlemen,
I beg to thank you for the sample
bottle of "Duchess Marie". I shall feel much
obliged if you will send me a case of
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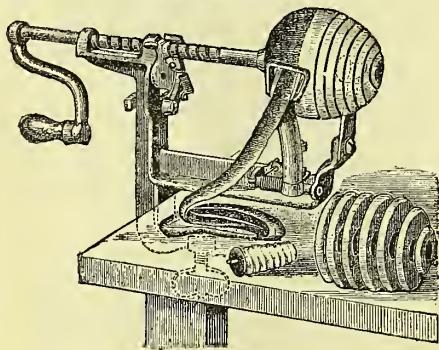
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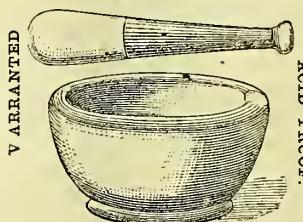
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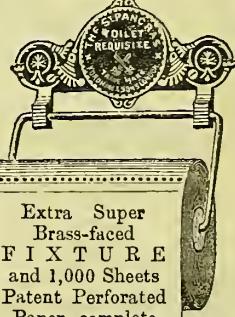
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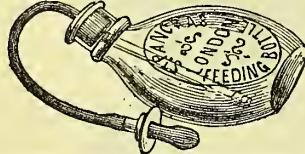
	4	4½	5½	6	7	8
Inches	12/6	14/-	15/6	17/-	29/-	34/-
Doz.	42/-	50/-	68/-	83/-		

The sizes are outside measurement across the top. Pestles alone, one-third, mortars alone, two-thirds, of List Prices.

NEW TOILET FIXTURE.

Extra Super
Brass-faced
FIXTURE
and 1,000 Sheets
Patent Perforated
Paper, complete,
13s. 6d. per doz.Rolls of Paper,
Separate, 1,000 Sheets
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Best White Glass, Bent or Straight, China
or Wood Top, 2/6 per doz.
Second quality (green tint), Bent or
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In 1 dozen counter boxes.

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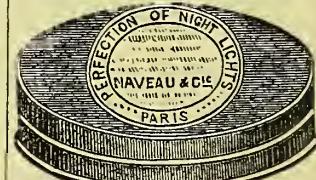
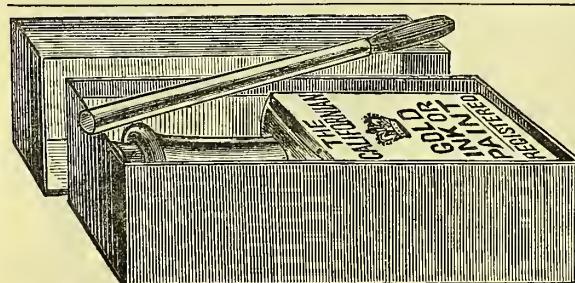
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Best quality, ½ lb., cardboard boxes, 60 to lb., assorted colours, per
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6d. and 1/- boxes, 2/6 and 5/- doz.THE
CALIFORNIAN GOLD LIQUID,A Beautiful Gold Ink,
and an Excellent Gold Paint.Penny Bottles, per gross 8/-
Threepenny, on cards, per doz. 1/9
Sixpenny, each in box with brush,
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POLISHING POMADE.

Twopenny, per gross .. 10/- | Sixpenny, per dozen .. 3/6

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Every dealer in Mineral Oils should write for particulars of our HAND ROTARY BARREL PUMP.

We guarantee it to empty a barrel of oil in less than four minutes.

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**IMPORTANT REDUCTION in the WHOLESALE PRICE of LAMPS,
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PATENT
PYRAMID NURSERY LAMP FOOD WARMERS**

MOSCOW EXHIBITION, 1872,

1st Award, First Grand Silver Medal to Samuel Clarke, London, for his Patent Pyramid Night Lamp Food Warmer.

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PRIZE MEDAL AWARDED, LONDON, 1879.

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**PATENT
PYRAMID NIGHT LAMPS.
THE BURGLAR'S HORROR !!**

RETAIL PRICE, 1/- EACH.



NOTICE TO THE TRADE.

Dealers having any PYRAMID Food Warmers, or PYRAMID Night Lights, in an unsaleable condition from exposure in the Shop, can have them exchanged for NEW ONES, without any CHARGE, by sending them Carriage Paid to the Patentee, S. CLARKE, Pyramid Night Light Works, Child's Hill, London, N.W.

Show Cards and Counter Bills will be forwarded CARRIAGE PAID on application by letter or post card.

	RETAIL.	WHOLESALE.	REDUCED PRICES.—NET CASH 27s. Per Dozen.
No. 1 Holds Half-a pint Food, besides Water	Price 3s. 6d. each	30s. Per Dozen.	30s. "
No. 2 Holds Three-quarters of a Pint Food, besides Water	5s. 0d. "	36s. "	30s. "
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Clarke's Hot-water Lamps	2s. 6d. "	20s. "	18s. "
" Pyramid Night Lamps, Lacquered and Bronzed	1s. 0d. "	8s. "	6s. "
" Lights		7s. od. "	
Extras.—Porcelain Panakins, No. 1, 8s., No. 2, 9s., No. 3, 10s. per doz.		Tin Panakins	No. 1, 8s., No. 2, 10s., No. 3, 12s. per doz.
Lids	No. 1, 2s., No. 2, 3s., No. 3, 4s. "	Clear Glasses, 4s. ..	Roughed, 6s. .. Opaline, 6s. "

PATENT PYRAMID NIGHT LIGHT WORKS, CHILD'S HILL, LONDON, N.W.

PATENT PYRAMID NIGHT LIGHT WORKS, CHILD'S HILL, LONDON, N.W., July, 1884.

DEAR SIRS.—Permit me to call your special notice to the above, showing the great reduction in the wholesale prices of Pyramid Nursery Lamp Food Warmers and Pyramid Night Lamps, on the 1st October next, and to the very large profit they will then bear to the retail dealer.

I wish also to call your attention to the note above, showing the exceptional advantage in sealing my goods.

Orders for Lamps of not less than a dozen will be sent in a free case, carriage paid, to any part of the Kingdom.

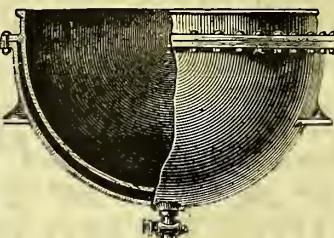
Soliciting your early order, to be executed at the reduced prices on the 1st October,

I am, dear sir, yours obediently,

SAMUEL CLARKE.

ESTABLISHED 1829.

EVAPORATING PANS, PANS,



PANS OF ALL KINDS,

IN COPPER, IRON, TIN, AND ENAMELLED IRON.

VACUUM PANS.

For Boiling, Evaporating, and Concentrating Quickly at Low Temperatures from 80° F.,
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IMPROVED MILL GRINDING & LEVIGATING MACHINERY, MACHINERY OF ALL DESCRIPTIONS.

BRINJES & GOODWIN,

WHITECHAPEL ENGINE WORKS, 25 FIELDGATE STREET, LONDON, E.

THE "SIMPLEX" PILL MASSEUR.

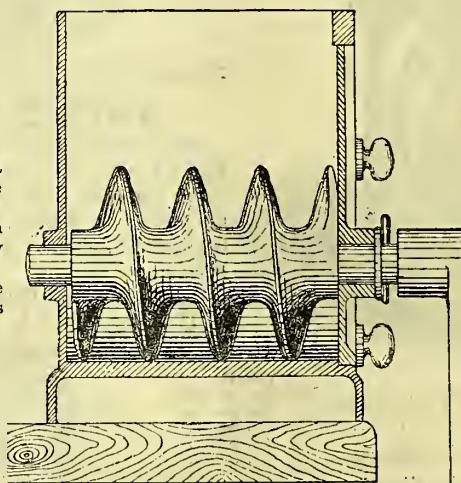
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Leman Street, London, E.,
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Gentlemen,—I have long wished to meet with a really efficient MECHANICAL substitute for the Pestle and Mortar. Your "Masser," in my hands has been so satisfactory, that I felt justified in introducing it to the notice of the Dispensary Department of the London Hospital.

There it has been highly appreciated—its Time and Labour Saving qualities at once proving its value.

I remain, yours faithfully,
C. W. LEAPINGWELL,
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Made in sizes to mix from $\frac{1}{2}$ lb. to 20 lbs. at a time.

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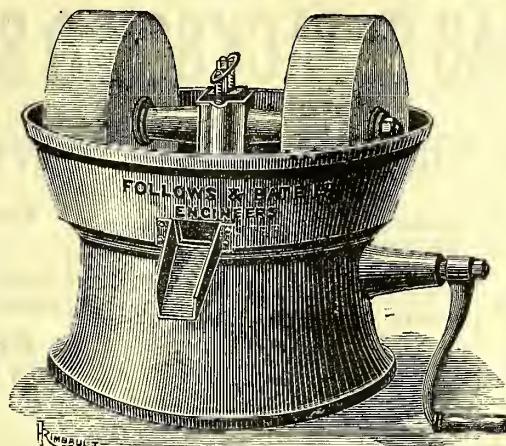


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PARIS, 1878.



For Mixing and Grinding Crystals (Tartaric Acid, &c.), Dry Colours, Drugs, Shellac, Harness Composition, Pastes of different kinds, Composition for Matches, &c., &c.



VIENNA, 1873.

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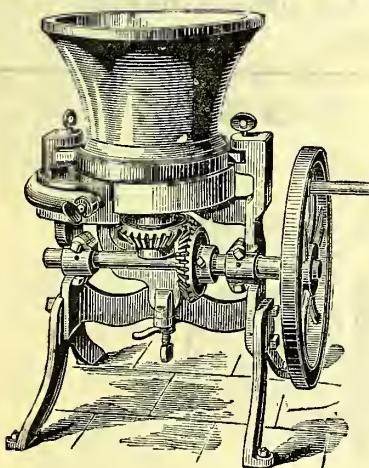
For Steam Power, with Fast and Loose Pulleys and improved gear, £22 10; and £27 10s.

If with Granite Rollers and Granite Bed, Wood Hopper, Lignum Bushes & Scrapers, for special purpose, £32 10s.

THIS MILL is of an entirely new design. It is most substantially built, and is intended to meet a long-felt want, that is, a thoroughly efficient machine for grinding and mixing dry colours, crystals, powders, drugs, and a variety of other materials by manual power. The gearing is of the simplest kind, and is all encased. The pan is stationary, and the rollers, which are of iron or granite, as ordered, and of considerable weight, are carried round the pan by a horizontal cross head, the ends of which form the axles, round which the rollers rotate. To the centre of the cross head, so as to rotate with it, are attached adjustable scrapers, placed in such a position as to travel in front of the rotating rollers, by which means the material is constantly thrown into the centre of their track. The crushing power of the rollers, in addition to their own weight, may be increased or diminished at pleasure by simply tightening a nut, which actuates a pair of powerful spiral springs attached to the central pedestal.

Larger sizes, of somewhat similar design but of greater capacity, are also made for steam power—the rollers of which are of granite.

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THESE Paint Grinding Mills are the most substantial, the most durable, and the most carefully-fitted Machines of the kind made, and are now in use in all parts of the world. They have almost entirely superseded the old system of hand grinding, and are considered an indispensable adjunct in every workslop or store where paint is used or sold, either in small or large quantities.

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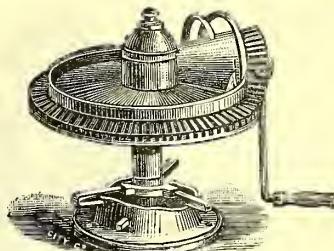
For Ginger, Gentian Roots, Crystals, and a great variety of purposes.
FOR HAND POWER.
Price, complete, with flywheel, £4 10 O.

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IMPROVED
Tincture Presses,
For Coarse and Fibrous Drugs.
From 15/- each.

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THIS is an effective, economical apparatus for grinding and crushing chalk, whiting, chrome, Prussian blue, indigo, and also for mixing pastes, putty, &c., and for making OINTMENTS of all kinds.

The roller and pan, revolving at varying speeds, ensure efficient trituration or amalgamation, as the case may require. The work is done much better and more quickly than can be done by hand. The springs at the base afford the means of quickly regulating the pressure. In many cases it will be found superior to a pestle and mortar.

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With Handle, to work by hand only, as illustrated..... £1 18 0

With One Pulley, for steam-power..... 2 0 0

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PAINTS. VARNISHES. WOOD STAINS.



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THOMAS S. JACKSON & SONS,



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READY-MIXED PAINTS,

In 1, 2, 4, 7, and 14 lb. Tins.

These goods are packed in the "Patent Self-opening Tins," which require no cutting. Tins painted to correspond with contents, and enclosed in printed wrappers.

28 USEFUL and SALEABLE TINTS,

Guaranteed to Dry Well.

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(Framed and Glazed), with Specimens of the Colours, supplied.

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Draught, or packed in 6d. bottles (8 oz.), capsuled and wrapped. Also in powder.

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With specimens of the Stained Woods, supplied.

The demand for these Stains is steadily increasing. They possess great richness and truth of colour, and

ARE OFFERED AT A REASONABLE PRICE.

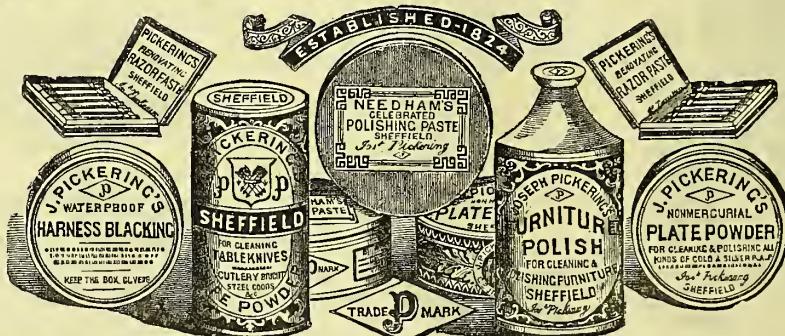
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ESTABLISHED 1853.

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For Cleaning and
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Established over Half a Century.

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Wholesale by London, Sheffield, Birmingham, and Wolverhampton Merchants,
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JOSEPH PICKERING & SONS, SHEFFIELD.

"LA BRILLANTINE"

(REGISTERED).

SOLD IN 6d. AND 1s. BOXES.

METALLIC POWDER

Is the best, cheapest, and most effective Powder for cleaning and polishing Metals and Glass (especially Brass). It is used by the Life, Horse, and Dragoon Guards, the Fire Brigades, &c., &c.

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25½ NEWMAN STREET, OXFORD STREET,
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GENUINE EMERY, EMERY CLOTH, AND BLACK LEAD.

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MANUFACTURERS OF

Glass Paper, Emery and Glass Cloth; Emery, Black Lead, Pumice, Putty Powder, Crocus, Urn Powder, Tripoli, Rouge, Plate Powder, Steel Polish, Furniture Polish, Knife Boards, Brunswick and Berlin Black, &c.

OAKLEY'S WELLINGTON KNIFE POLISH,

Prepared expressly for Oakey's Patent India-Rubber Knife Boards, Buff Leather Boards, and all the Patent Knife Cleaning Machines. Sold in Packets, 8d. each; and Tins, with perforated Tops to prevent waste, 6d., 1s., 2s., 6d., and 4s. each.

OAKLEY'S NON-MERCURIAL SILVERSMITH'S SOAP,
For Cleaning and Polishing Silver, Plate Glass, Marble, &c. Tablets, 6d. each.

OAKLEY'S POLISHING PASTE,
For Cleaning Brass, Copper, Tin, Pewter, &c., &c. Tins, 1d., 2d.; Pots, 6d. and 1s. each.

WELLINGTON BLOCK BLACK LEAD.

In 1d., 2d., and 4d. Blocks, and 1s. Boxes.

WELLINGTON EMERY & BLACK LEAD MILLS, Westminster Bridge Road, London, S.E.
Highest Award and Prize Medal, Philadelphia Exhibition, 1876; and Boston, 1883.

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SHELLACS, CUTCH, & GENERAL DRYSALTERS.

Drugs of all descriptions.

CHEMICALS, ESS. LEMON, GLUES, GELATINES.

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A. SANDERSON & CO.,

WHITE LEAD, PAINT, COLOUR AND VARNISH WORKS,
HUMBER BANK, ROPERY ST., AND JACKSON ST., HULL.

PAINTS MIXED READY FOR USE, ALL COLOURS,

Best Quality, in 1, 2, 4, 7, 14, and 28 lb. Tins, 34s. per cwt., carriage paid.

SANDERSON'S IMPROVED DAMP-RESISTER, for the effectual cure of damp walls.

SANDERSON'S IMPROVED CAUSTIC PASTE, for removing old paint, varnish, &c.

PINK PRIMING PAINT, EXTRA STRONG PATENT DRYERS, PUTTY, &c., &c.

SHOW CARDS, SAMPLES, AND PRICES ON APPLICATION.

BROWN'S SATIN POLISH.

Highest Award, Philadelphia, 1876. Gold Medal, Berlin, 1877. Highest Award and only Medal, Paris Exhibition, 1878. Highest Award, Melbourne, 1881. Highest Award and only Medal, Frankfort, 1881. Highest Award and only Medal, Amsterdam, 1883.

Put on by Sponge attached to Wire and Cork in each Bottle. No Polishing Brush required. Dries in a few minutes. Can be used by any lady without soiling her fingers.

The "Satin Polish" is the most elegant Article of the kind ever produced.

LADIES' SHOES, which have become Red and Rough by wearing, are restored to their ORIGINAL COLOUR AND LUSTRE, and will not soil the skirts when wet. TARNISHED PATENT LEATHER is improved by it.

For Travelling Bags, Trunks, Harness, Carriage Tops, &c., it is unequalled. It will not harden the Leather nor crack. It is not a spirit varnish. In Cartons, 4s. 6d. per dozen; 52s. per gross. Packed in Sawdust, 3s. 9d. per doz.; 43s. per gross. 2½%.

AMERICAN MAGIC BRONZE

Is the best in the Market, and it can be used with good effect on Ornaments, Picture Frames, Iron and Fancy Work generally, as well as for Boots and Shoes. In Cartons, 7s. per dozen. 2½%.

SOLD BY ALL WHOLESALE CHEMISTS AND DRUGGISTS' SUNDRIESMEN.

Factories: BOSTON; MONTREAL; 18 & 20 Norman's Buildings, ST. LUKE'S, LONDON.



BURROUGH'S
SPIRITUS RECTIFICATUS P.B.

SPIRITS OF WINE

THE BEST ENGLISH GRAIN SPIRIT
FREE FROM FUSEL OIL CHEMICALLY PURE
5 gallons 60 over proof at 20/- net cash
Special Quotation for Quantity
DUTY FREE FOR EXPORT 4/-

Best BURROUGH'S
Cale St Distillery

Methylated
CHELSEA,
S.W. Spirits

AT LOWEST PRICES
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METHYLATED SPIRIT & FINISH

Supplied of the best quality in wholesale quantities by

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FROM RATCLIFFE.

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SHELLACS, GUMS & SPIRITS (Pure and Methylated).

PITCH,

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IMPORTERS OF AND MERCHANTS IN ALL KINDS OF PITCH, OILS, &c.
Hard and Soft Stearine Pitch Palm Oil Pitch Brimstone, Ashes, &c.
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PURE SPIRITS of WINE

For Tinctures, Essences, Perfumes, &c.

A. MACNAIR & CO.,
RECTIFIERS,

20 DUTTON STREET, MANCHESTER,

Beg to call the attention of CHEMISTS AND DRUGGISTS to their under-mentioned prices of Pure Spirits of Wine:—

Strength per cent.	Specific gravity.	Price per gall.
63 over proof ..	0·8238 ..	20/10

60 ..	0·8298 ..	20/4
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55 ..	0·8366 ..	19/10
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50 ..	0·8482 ..	19/4
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Terms: Cash on Delivery. Jars to be returned or paid for.

For Exportation. Cask included, 4/- 60 o.p. F.C.B.

Orders from the country must be accompanied by a remittance, including the price of the Jars, which are charged as follows:—2 galls. 2/-; 4 galls. 4/0; 5 galls. 5/0; 6 galls. 6/0. When the Empties are returned, the money will be repaid.

Also ABSOLUTE ALCOHOL. Prices on application.

PRONK, DAVIS & CO.,

ANILINE DYE AND CHEMICAL AGENTS,

41 GREAT TOWER STREET BUILDINGS,
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Specialities for Varnishes and Wood Stains.

THE FINEST AND CHEAPEST

SPIRIT BLACK
IN THE MARKET.

BRONZE POWDER, GOLD AND METAL LEAF.

Vermillion, Vermillionette, Ultramarine.

CUDBEAR, INDIGO PASTE, JEWELLERS' ROUGE.

JAMES'S TOILET SPECIALITIES.

JAMES'S HERBAL OINTMENT, for the Cure of Pimples, Black Specks, Blotches, &c., and taking away Tan Freckles, Sunburn, &c. Sold by all Chemists, 1/1 $\frac{1}{2}$ and 2/9 per box.

JAMES'S DEPILATORY,

For the instant removal of Superfluous Hair. Sold by all Chemists, 1/- and 2/- per box.

JAMES'S HERBAL POMADE,

For Promoting the Growth of the Hair, Whiskers, Beard, Moustachios, Eyebrows, and Eyelashes. Sold by all Chemists, 1/- and 2/- per box.

These Articles are well worthy the attention of Chemists, Wholesale Houses, and others, as they are being well advertised.

JAMES & CO., 226 Caledonian Rd., LONDON, N.

A PERFECT BOON TO MOTHERS !**ROGERS' NURSERY****HAIR LOTION.**

SOLD BY ALL CHEMISTS AND PERFUMERS.

Observe! Genuine only in Yellow Wrapper, White Label. WHOLESALE AGENTS.—Barclay & Son; Edwards & Son; Maw, Son & Thompson; Millard & Son; Sanger & Sons; Thompson & Co., Limited; Butler & Crispe; Hovenden & Sons; Newbery & Sons.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

**PROFESSOR TUSON'S DISINFECTANTS,
DEODORISERS & ANTISEPTICS.**

LIQUID AND POWDER.

These Preparations are the Invention of Prof. TUSON, of the Chemical Laboratory, Royal Veterinary College, Camden Town.

THE LIQUID is a solution of one of the most powerful non-volatile disinfectants impregnated with the BEST gaseous disinfectant.

THE POWDER, when exposed to the air, but more rapidly when damped with water, or when applied to litter, manure, or other moist substances, evolves the same gaseous disinfectant as the liquid.

Both preparations fix ammonia, prevent putrefaction and the spread of infectious diseases, DESTROY (not merely mask) bad smells, and LEAVE NO SMELL of their own. These combined qualities render them superior to, and unlike, every other disinfectant hitherto invented.

THEY WILL BE FOUND INVALUABLE in Houses infected with Cholera, Fever, Small-pox, Measles, &c.; in Hospitals, Dissecting Rooms, Ships, Factories, Stables, Cow-sheds, Dairies, Larders, Piggeries, Slaughter-houses, Kennels, Urinals, Privies, Cesspools, Water-closets, Sewers, Drains, Manure Heaps, &c.

Note.—For use in Water-Closets, Sinks, Drains, and the like, preference should be given to the Liquid, as the choking of soil-pipes, &c., by solid Disinfectants is thereby entirely avoided.

SOLD BY ALL CHEMISTS.

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HOUDOUIN SOLE MANUFACTURERS OF FLAVOURING

A. BOAKE & CO., Stratford, London, E.

W. KEMP & SON, HORNCastle.**PURE CRUSHED LINSEED,**

CONTAINING ALL THE OIL. A strictly pure article, all other seeds, dirt, &c., being entirely removed. It is lightly crushed from a special kind of large bold seed, which gives a larger proportion of meal to husk than the ordinary commercial Linseeds. Price 18/6 per cwt., bag free. Special quotations for 5 cwts. and upwards.

Note.—This quality can be obtained from Messrs. Barclay & Sons, 93 Farringdon St., London, in 1-cwt. bags at above price; smaller lots 20/- cwt.

CRUSHED LINSEED No. 2,

Contains all the Oil, and is crushed from sound good Linseed, 17/6 per cwt., bags free.

CRUSHED LINSEED No. 3,

Contains all the Oil, and is crushed from sound good Linseed, 16/6 per cwt., bags free.

CRUSHED SICILIAN LINSEED,

The best for feeding purposes; merely requires scalding to make a stiff jelly, and when introduced at once creates a large demand; 17/- per cwt., bags free.

PURE LINSEED MEAL,

WITHOUT OIL. Best quality only, 11/6 cwt., bags free.

All ground in our own mills, and always sent out freshly crushed.

Special Quotations for Quantity.

Above can be had with the Husk wholly or partially sifted out at an advanced price. Correspondence on this subject is invited.

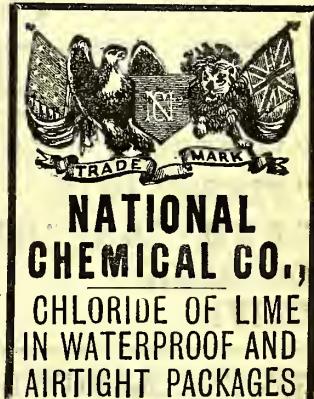
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W. KEMP & SON, Seed Crushers, HORNCastle.

CHLORIDE OF LIME**IN PACKAGES.**

Waterproof,
Airtight, Neat,
Clean, and
convenient for use.

Odourless,
and retains its strength
unimpaired, and
will keep for years in
any climate.



**NATIONAL
CHEMICAL CO.,**
CHLORIDE OF LIME
IN WATERPROOF AND
AIRTIGHT PACKAGES

	Per Box.
24-lb. BOXES, containing 24 1-lb. Packages	6/6
Ditto ditto 48 $\frac{1}{2}$ -lb. ditto	7/0
Ditto ditto 96 $\frac{1}{2}$ -lb. ditto	8/0
Ditto ditto 1-lb., $\frac{1}{2}$ -lb., & $\frac{1}{4}$ -lb., assorted	7/3
Ditto ditto 1 Gross Penny Packages	8/0

	Per Case.
50-lb. CASES, containing 50 1-lb. Packages	13/0
Ditto ditto 10 5-lb. ditto	13/0
Ditto ditto 100 $\frac{1}{2}$ -lb. ditto	14/0
Ditto ditto 200 $\frac{1}{2}$ -lb. ditto	16/0
Ditto ditto 1-lb., $\frac{1}{2}$ -lb., & $\frac{1}{4}$ -lb., assorted	14/6

Also in 1 cwt. and $\frac{1}{2}$ -cwt. Cases, to meet the requirements of large buyers and the Export Trade.

A Liberal Discount allowed on all Orders of 5 Cases or 10 Boxes and upwards. Special Quotations for Contractor or Large Orders.

Sample Box or Case can be had from any London or Country Wholesale Druggist, All Goods Delivered Free in London.

Write for Prices of the N.C. Co.'s Chloride of Lime in Jars, Bottles, Tin Boxes, Casks, Cases, etc.

NATIONAL CHEMICAL CO.,
29 Suffolk Grove, Gt. Suffolk St., Southwark, S.E.

DAVID SALMOND & SON,

SEED CRUSHERS AND OIL REFINERS,

MANUFACTURERS OF

PURE LINSEED & COTTON CAKES,

ALSO

R A P E C A K E S

FOR MANURE PURPOSES,

WILMINGTTON OIL MILLS, HULL, YORKS.

Following is COPY of a REPORT by PROFESSOR AITKEN, of Edinburgh, on our
"D. S. PURE" LINSEED CAKES:—

"CHEMICAL LABORATORY, 8 CLYDE STREET, EDINBURGH, 3RD DECEMBER, 1883.

"The Analysis of this sample of Linseed Cake is precisely what the Analysis of a first-class Linseed Cake ought to be. I have carefully investigated the Sample in every way, and find it to be a pure and genuine Linseed Cake, in excellent condition.

(Signed) "A. P. AITKEN, D.Sc.,
Chemist to the Highland and Agricultural Society."

CHISWICK SOAP COMPANY, CHISWICK, LONDON, W.,

SOFT SOAP

MANUFACTURERS, WHOLESALE AND EXPORT.

"IMPERIAL" SOFT SOAP	Manufactured specially for Domestic use, and packed in 1, 2, 3, 3½, 4, and 7 lb. Tins.
"FINEST PALE" "	Very pale Amber colour, odourless. Packed in barrels, firkins, half-firkins, and 14-lb. tins.
"B B B," "B B," "B L," "	The usual qualities, and kept in all packages to suit buyers.
CARBOLIC "	Contains 10 % Calvert's No. 5 Acid. For Dogs and Cattle, making Sheep Dip, and general disinfecting purposes. Packed in 1, 2, 4, and 7 lb. tins; 14, 28, 56, and 112 lb. iron drums.
OLIVE "	The B.P. "Sapo Mollis," made from finest Olive Oil and pure Potash, in tins, firkins, and jars.

EWENS' CLARIFIED LARD, MARROW, SUETS, AND OILS.

JAMES EWEN & SONS are induced to give further publicity to these articles, the continued demand by all who have used them being satisfactory proof "that where purity of basis" in ointments, &c., is required, they are most desirable.

By their method of purifying, the fats are not chemically altered, but simply divested of all particles tending to decomposition, they are consequently available for the most delicate preparations.

Adeps. Benz. B. P. and Pharm. Lard (*vide* P. J. Vol. I. No. 8). Direct, "for Cash only," from

JAMES EWEN & SONS' CLARIFIED FAT WORKS,

5 HATFIELD STREET, STAMFORD STREET, S.E.;

Or through any of the Wholesale Houses, with their usual credit, at a small advance.

CAUTION.—See that each package bears their label with name and weight.

Robare's Aureoline,

OR GOLDEN HAIR WASH.

The attention of the Trade is respectfully called to the above Article, now having a large sale, and giving an excellent profit to the Retailer.

5/6 size, 36/- per doz. 10/6 size, 72/- per doz.

SOLE WHOLESALE AGENTS—

R. HOVENDEN & SONS, LONDON.

COLTHURST & HARDING, BRISTOL.

Contractors to the Right Honourable



the Lords of the Admiralty.

MANUFACTURERS OF
WHITE LEAD, WHITE ZINC, PAINTS, FINE & PULP COLOURS,
 FOR PAINTERS AND PAPER STAINERS,
TEREBINE AND PATENT DRIERS.

HIGH-CLASS VARNISHES

Of every description, for Painters, Coach Builders, and Japanners.

PATENT ENAMEL COMPOSITION, for Ships' Bottoms and Ironwork.

P A I N T S

MIXED FOR USE, in 1, 2, 4, 7, and 14 lb. Tins. Universally acknowledged to be the Best in the Market.

Light and Dark Hard Drying Raw and Boiled Linseed Oil and American Turpentine.

IMPORTERS OF PETROLEUM, BENZOLINE, GASOLINE, AND OILS.

OIL REFINERS AND SOFT SOAP BOILERS.

Lists and Special Quotations on application. Special Attention to Export Orders.

Proprietors of the **CELEBRATED ELECTRIC LIGHT OIL**, the most Beautiful and Perfect Illuminator.

Electric Polish! Electric Polish!!

For cleaning Silver, Copper, Brass, Steel, & all bright metals, diminished labour, less trouble and expense, use

LEWIS'S ELECTRIC POLISH,

which will make old and tarnished articles bright as new. It is a liquid preparation, and entirely different to anything yet introduced. It contains no acid, mercury, or injurious chemicals, easily applied, and at once produces a bright, mirror-like surface, and lasting. Tradesmen and others who require a polish for their Scales, Weights, Brass Stalls, &c., it is invaluable. For domestic use, Silver, Electro Plate, Steel, Door Handles, &c., it will prove a great boon. When once tried, it will never give place to any other. An outlay of 6d. for a bottle will never be regretted. Price 6d. and 1s. per bottle, of all Chemists.

SOLE MANUFACTURER,

D. J. LEWIS, Chemist, &c., High St., Acton, W.

Wholesale London Agents—SANGER & SONS; G. B. KENT & SONS; S. MAW, SON & THOMPSON; and SOUTHALS, Birmingham.

The Proprietor can with every confidence recommend this to the Trade.

3 Prince of Wales Crescent, Kentish Town,
London, N.W., January 16, 1884.

SIR,—I have much pleasure in informing you that the bottle of "ELECTRIC POLISH" I bought of you does even more than you promised it should do. I gave it a fair trial with gold, silver, and brass, and found it to give a far more lustrous and lasting polish than any paste or powder I ever tried, and when once a bright surface is obtained it is some considerable time before it becomes dull again. It needs only to be known to be appreciated. You are at liberty to make what use you like of this letter, and I trust the sale of your Polish will continue to increase, as such a very useful and economical preparation deserves to.

I am, Sir, yours truly,

M. HERANT.

To Mr. LEWIS, Chemist, &c.

Apsley Terrace, Acton, W., April 10, 1884.

Mrs. CONRAD HOWELL has much pleasure in testifying to the excellence of the ELECTRIC POLISH prepared by Mr. LEWIS. It seems to suit all metals equally; it has completely restored some tarnished silver which Mrs. H. was about to send to a Silversmith to be cleaned. No one who tries it can doubt the result.



GUEST'S HOUSEHOLD REQUISITES.

GUEST'S FURNITURE POLISH REVIVER.—An entirely new preparation, brilliant polish, little labour, and no finger-marks. In patent air-tight tins.

GUEST'S FURNITURE CREAM gives a brilliant polish with half the usual labour.

GUEST'S SILVERSMITHS' PLATE POWDER.—A new preparation, warranted to prevent tarnishing three times longer than any other.

GUEST'S CUTLERY POLISH gives a brilliant mirror-like lustre. Sold in perforated canisters.

GUEST'S BRASS POLISH.—Splendid polish, rich colour, with little labour.

GUEST'S BRUNSWICK BLACK.

W. G. & S. have every confidence in recommending above to the public, and earnestly solicit a trial. Samples and price lists on application.

WM. GUEST & SON,
NEPTUNE WORKS, PORTMAHON, SHEFFIELD.

ESTABLISHED 50 YEARS.

Exhibitions—1851, 1862; Paris, 1867, 1878.

LEATHART'S Improved EXHIBITION DYES

To Retail at 1/-, 2/-, 3/- and 5/- See Price List

LEATHART'S COLORIFIC.

A Stain in one preparation; perfect, light, and ordinary browns.

To Retail at 3/-, 2/- per dozen.

EXHIBITION DYE IN BULK.

2/-, 5/-, 10/-, £1. Four Colours.

ONE PREPARATION IN BULK.

MALACCA JUICE.

Winchester (4 pints), 1/6. Sample Bottle, carriage free, 1/6.

AN ORIGINAL PREPARATION. QUICK IN ACTION.

C. G. LEATHART is at home for consultation on Mondays only, from 10 till 4.

179 LADBROKE GROVE ROAD, NOTTING HILL, W.
N.B.—Price List will be forwarded.

PATENT

FOLDING PAPER BOXES

FOR BOTTLES OF ALL SIZES AND KINDS, INCLUDING

**PHILADELPHIA OVAL AND FRENCH SQUARE,
FOR PRESCRIPTIONS.**

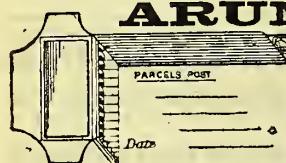
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PROPRIETARY GOODS, BAKING AND CONDITION POWDERS, ETC.All these boxes **Fold Flat**, thus economising in freight and storage, enabling us to ship them to any country. THEY CAN BE PRINTED WITH ANY CARD OR FORMULA

IN ANY LANGUAGE, thus doing away with label-pasting or wrapper-folding.

ENVELOPES FOR COURT PLASTER MADE IN COLOURED PAPERS.*Samples and Estimates Furnished by***MUNSON & CO., NEW HAVEN, CONN., U.S.A.**

NEW YORK OFFICE: 309 BROADWAY.

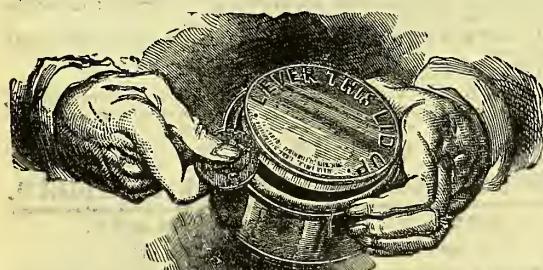
**ARUNDEL & MARSHALL'S PARCELS POST BOXES FOR BOTTLES, &c.**

Are perfectly secure and safe for transmission through the Post.

TO BE HAD OF ALL DEALERS.

2 oz., 3 oz., 4 oz., 6 oz., 8 oz., 10 oz., 12 oz., 16 oz., kept in Stock.

Folding Bottle Cases of all Descriptions and Sizes. Price List on application.

PENN STREET WORKS, HOXTON, LONDON, N.

Boxes ready made up, or the Patent Tops only (ready for making up), are supplied.

SELF-OPENING TIN BOX COMPANY
(GRIFFIN'S PATENT),
19 Kirby St., Hatton Garden, London, E.C.**THE NEW TIN BOXES** for all kinds of Hermetically Sealed Preserved Foods, DRUGS and CHEMICALS.**THE NEW TIN BOXES** are as cheap as the ordinary Boxes, require no soldering up, and can be opened with a penny piece.**THE NEW TIN BOXES** are being adopted by the largest Food-preserving Houses and CHEMISTS, to whom references can be given.**THE NEW TIN BOXES** are also perfect for Tea and Coffee Canisters, Biscuit Boxes, Confectionery, Paints, Oils, Varnishes, Soaps, &c.**THE NEW TIN BOXES** are described by the Times, Standard, Chronicle, Illustrated News, Engineer, Grocer, Oil and Colourman, and Press generally, as the "neatest and most elegant invention ever made."**THE "ECLIPSE" PARCEL BOX**
(WOOD), NUTTER'S PATENT.

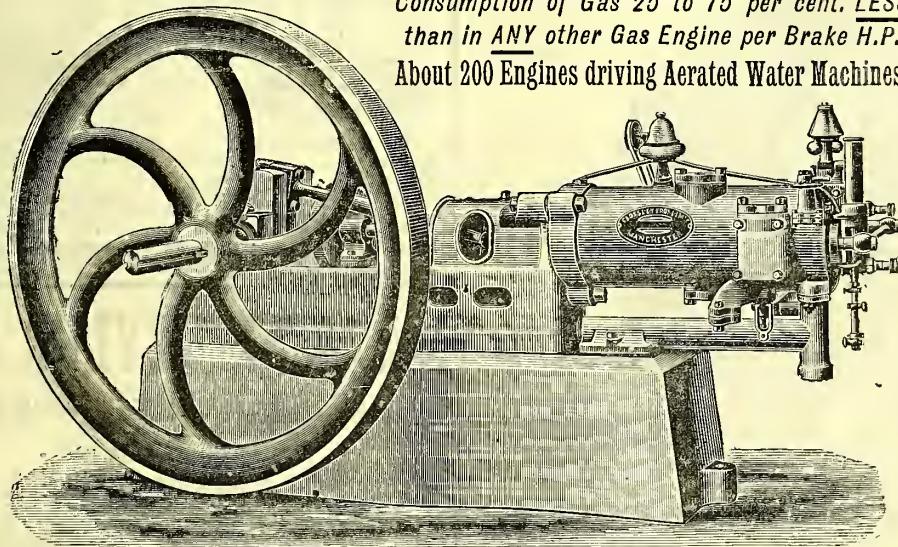
Simple, Cheap, and Efficient, for Post, Rail, or Messenger. In sizes for all purposes.

SPECIAL BOXES FOR BOTTLES (LINED AND UNLINED) FOR CHEMISTS, WINE MERCHANTS, &c.WHOLESALE OF
F. C. NUTTER & CO., 7 NEW BASINGHALL STREET, E.C.
1-oz., 16/6. 2-oz., 19/6. 4-oz., 22/. 6-oz., 24/. 8-oz., 29/6. 12-oz., 32/6. 16-oz., 35/.

THE
"OTTO" GAS ENGINE.
 OVER 15,000 IN USE.

13 SILVER MEDALS. 16 GOLD MEDALS.

*Consumption of Gas 25 to 75 per cent. LESS
 than in ANY other Gas Engine per Brake H.P.
 About 200 Engines driving Aerated Water Machines.*



CROSSLEY'S NEW VERTICAL "OTTO" ENGINES.

Requiring very little ground space.

CROSSLEY'S PATENT SELF STARTER.

The Safest, Simplest, and Best.

CROSSLEY'S PATENT TWIN ENGINES.

Impulse every revolution. The steadiest running Gas Engine yet made.

THE ONLY GAS ENGINE WHICH RECEIVED A GOLD MEDAL AT THE PARIS ELECTRICAL EXHIBITION.

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BARNETT & FOSTER,"Niagara Works," 26th Eagle Wharf Rd., London, N.

Having completed extensive alterations and additions in our premises and plant, we are now enabled to execute orders of any magnitude for our celebrated "LONDON MADE" SYPHON BOTTLE (which has earned such high reputation for being the simplest, safest, and most elegant syphon in the market) with punctuality and dispatch, at the same time guaranteeing the best workmanship and materials. Special attention is called to the patent "Octagonal" vase, which adds greatly to the appearance of the syphon without very greatly increasing the cost, and which is fitted at the base with groove so that drips from the spout run down the sides and are prevented from soiling the table.



PRICES (White, Blue, Green, or Amber):—
By the gross, Less than 1 gross,
per doz. per doz.

Quart size	£1 2 0	£1 4 0
Pint size	1 1 0	1 3 0
Half-pint, Pear shape	1 0 0	1 2 0
Octagonal vases, any colour	1 4 0	1 6 0

Tops nickel-plated, from 5s. 6d. per doz. extra. Tops silver-plated and burnished, from 9s. per doz. extra. *Special Prices and Terms to Large Buyers.*

NOTE.—Syphons made with our patent foot for collecting excess of liquid dripping from the spout after use are supplied at no extra charge, and will be found of great utility in preventing stains, &c., upon table linen. This is a desideratum long been wanting, particularly for private house use. Send for sample; forwarded upon receipt of 2s.

INTERNATIONAL HEALTH EXHIBITION, 1884,
SOUTH KENSINGTON, LONDON.

Visitors to the above Exhibition are specially invited to examine our splendid exhibit in the Western Gallery, Stand No. 1,136, where our syphons can be seen, and a complete mineral water manufactory with all latest improvements is in actual daily operation.

SIX PRIZE MEDALS AWARDED—TWO GOLD.
For very superior quality, make, and special excellence in finish.

**THE BRITISH SYPHON
EUGSTER & KOERTGEN, MANUFACTURING CO.**

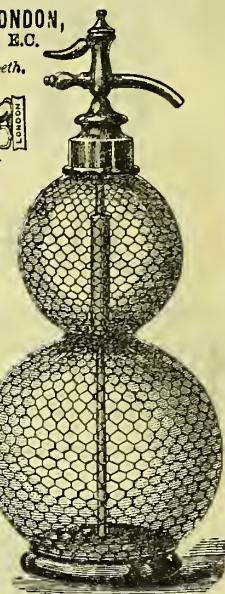
2 GRESHAM BUILDINGS, LONDON,

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Works:
Wickham St., Lambeth.

Specimen of Trade Mark engraved on the Syphon Bottles by the acid process at 1½ and 2d. per bottle extra. Name stamped on the metal tops for orders of one gross.

IMPORTANT.—In ordering our Seltzogenes through Agents, distinctly state that you require the "Lion and Shield" brand, and see that you get it, as often other inferior brands are substituted. All our apparatus are stamped thus—
GUARANTEED HEREFECI, and of first-class workmanship.

**SELTZOGENES.**

Short Lever... 22/6 per doz. net.
Long White, Blue, Amber, or Green Bottles.
Octagonal-shaped Bottles, 1/6 per dozen
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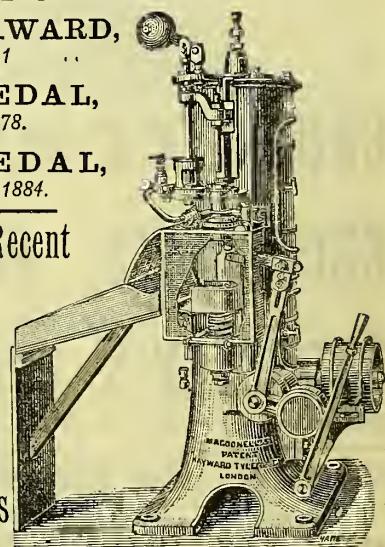
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GOLD MEDAL,
PARIS, 1878.

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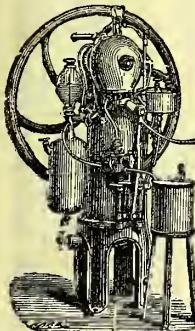
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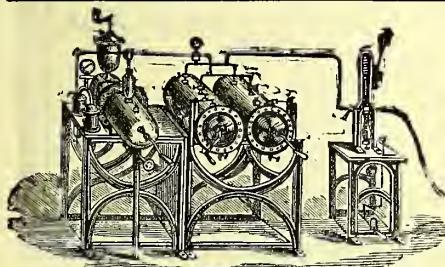
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Without Gasometer, with automatic distribution of the acid. The only ones which work under a regular pressure as long as the operation lasts.

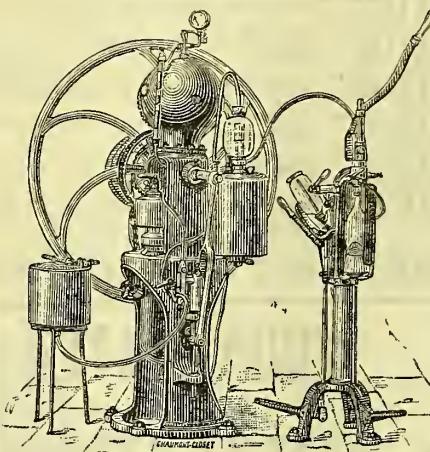
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Short lever.

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20/6 per dozen.

All the fittings manufactured by ourselves, and
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Showing the Generator with Combination filler (for bottles and siphons), Price £48. Production 1,200 siphons or bottles daily
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No gasometer required.

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1/7th of actual size.

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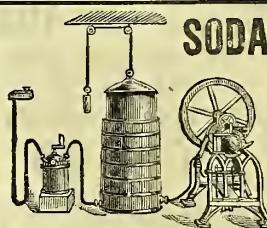
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ESTABLISHED 1873.

*The Pioneer Journal and Representative Organ of the Mineral
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PUBLISHED ON THE 18TH OF EACH MONTH.

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1875.



1873.

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For immediate production of Eau de Vichy, Soda Water, Sparkling
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First introduced by EUGENE GERAUT & Co. in 1853.

WHOLESALE PRICES
as follows:—

2-pint Size, Wire, 13/8	;	Cane, 13/8
2-pint " "	18/0	" 19/0
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Porcelain stands ..	each 30/0	
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Our well-known Seltzogenes are improved yearly, and have already
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Late 1 and 2 CORPORATION BUILDINGS.

SYPHONS.Clear or coloured glass (white, blue, green,
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TOPS, with piston or cap.

22/6

per dozen, for quantities of not less
than one gross.

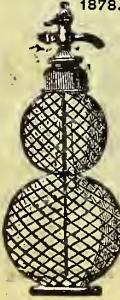
Packing in Cask, 5/- per gross.

The Name marked on the metals free of charge
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The Name engraved with Trade Mark, from 1/6 to

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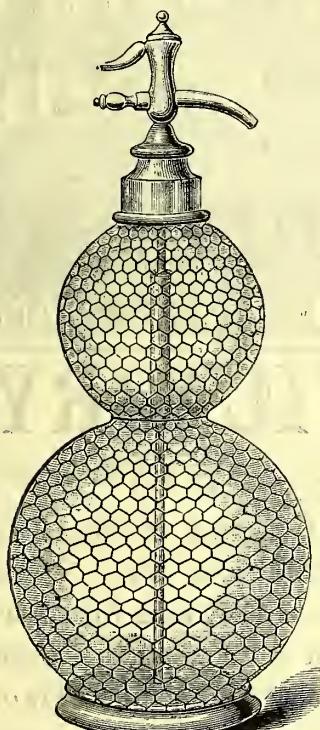
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Unequalled in Style and Finish.

CANE OR WIRE COVERED.



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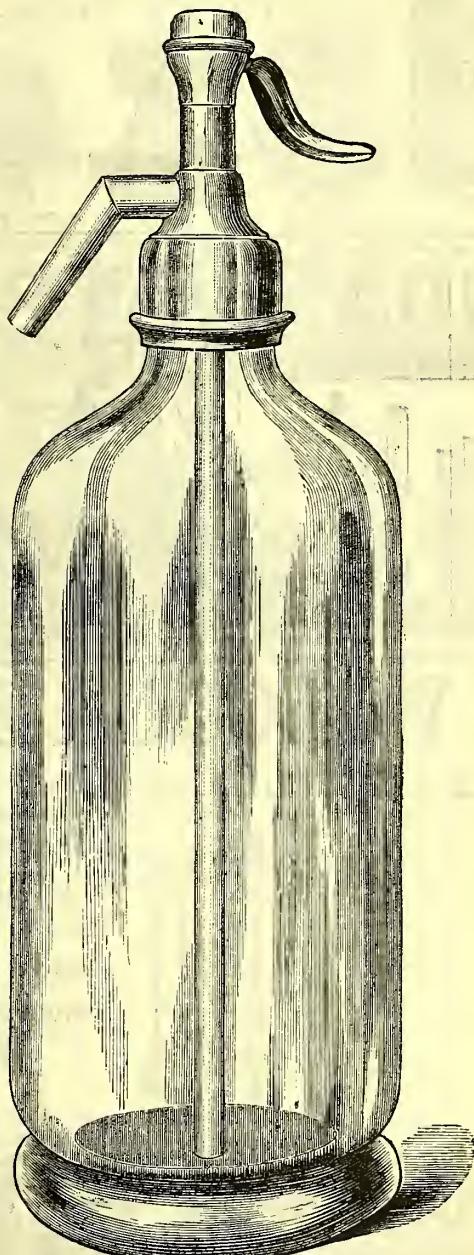
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Tops guaranteed to be made of Best English Tin and free from Lead.

VALLET'S PATENT IMPROVED STOPPED BOTTLES,

For Mineral Waters and Gaseous Liquids,
Are now used by upwards of 1000 Soda Water Manufacturers
in the United Kingdom.

PRICES (Per Gross)— Patent Stopper, as per Fig. 1, 4/-; ditto, as Fig. 6, 4/-; ditto, as per Fig. 7, 4/-; Patent Stopped Bottles, ready for use ... ditto Half Bottles, ditto; Patent Unstopped Bottles ... ditto Half Bottles; Fig. 9, Boxwood Bottle Openers, polished, 4/-; ditto, fitted with rubbers, 10/-; Common Wood Bottle Openers, 5/-; ditto, fitted with rubbers, 7/-; Fig. 10, New Bottle Opener, 6/-.

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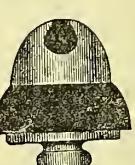
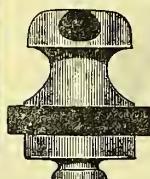


Fig. 2.

Fig. 6.

Fig. 1.

Fig. 7.

It will be seen by reference to figs. 6 and 7 that I now form a button or nut under the base of my Stopper for the purpose of easily extracting same from the Bottle without spoiling or removing the indiarubber from the body of the Stopper. This is readily accomplished by the use of a suitable tool made to fit on the nut; the Stopper being grasped is withdrawn from the bottle in a second, without injury to the Stopper.

Therefore, it will be a great saving to Mineral Water Manufacturers, as by the old way of extracting the Stoppers from the Bottle, when necessary, very often the indiarubber is spoiled, and the time it takes by this slow process is worth more than the Bottle itself; so that in many instances Bottles with spoiled or dirty Stoppers are put aside as worthless stock.

Fig. 1 and 6 Stoppers, when invoiced without Bottles, are ready fitted with the rubber washer on, and are easily inserted into the Bottle by the simple pressure of the thumb, the washer at the same time folding in the hollow part of the stem, when passing into the Bottle. They are the only Stoppers which require no tool to fit into the Bottle; and when a Bottle breaks, which seldom occurs, the Stoppers are always fitted with washer and ready to be inserted in a new Bottle. Therefore they are the most durable and inexpensive Stoppers in the Trade.

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AND ALL ACCESSORIES

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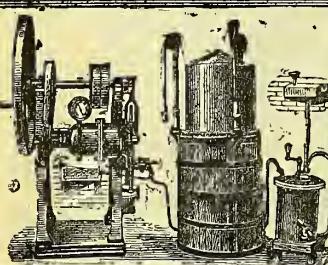
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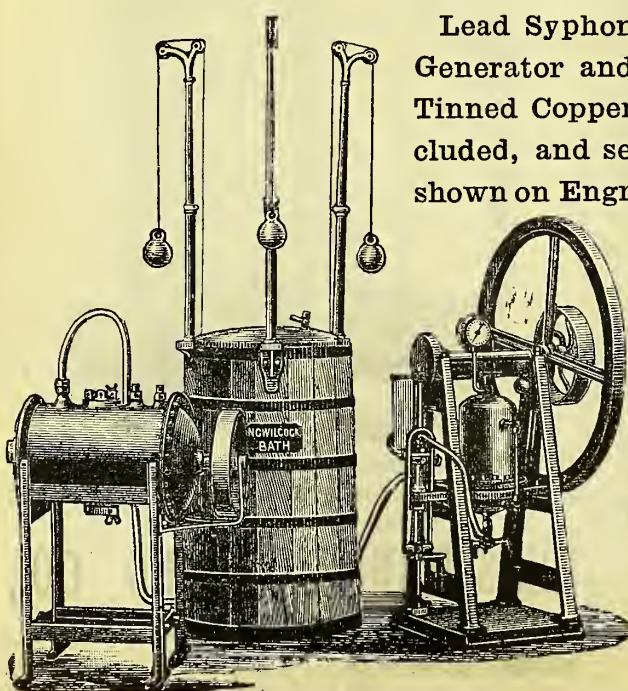


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HIGH-CLASS SODA WATER MACHINE.

Lead Syphon, Acid Box, and Manual Handles for Generator and Machine; also Buoy Valve for the Tinned Copper Solution Pan and Spanners are included, and sent with each Machine, although not shown on Engraving, and the Gasholder is of Copper.

Recipes and Directions for Working are included.



This machine makes a highly-charged gaseous water, free from metallic contamination or foreign impurities.

		Packed in Cases
Z	Plant makes 400 doz. large bottles per day ...	£42 10 0 £3 15 0
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150,000 GALLONS IMPORTED IN 1884!

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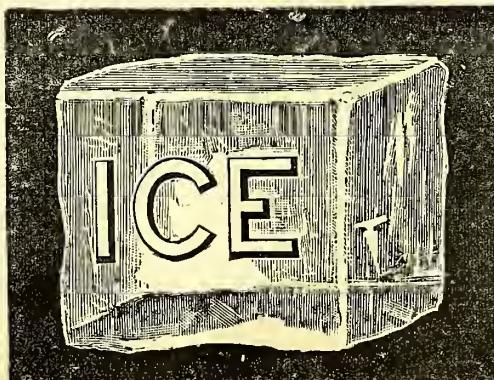
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Packing free. Utmost promptitude in despatch.

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The aroma is fine, the flavour delicate, and the pungency admirable, and we should be glad to see the Essence introduced into this country.

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"It pours out with as fine a 'head' as any glass of ale, and possesses all the fine aromatic flavour of the pure ginger. It is a beverage which is sure to win favour wherever introduced." —*The Chemist and Druggist.*

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This Essence, which is an addition of Vanilla, Lemon, and other flavours to the above, is strongly recommended for the manufacture of the finest Ginger Beer and Ginger Ale. It imparts, with the exquisite Ginger Aroma of the above-mentioned Essence, a peculiarly fine fruity flavour combined with the fullest amount of fragrance and pungency.

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This Essence is a combination of the Finest Flavours, and imparts with the Ginger, a most exquisite Aroma.

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This Essence is a complete Bouquet of the Finest Ginger, Lemon, and other flavours in a highly concentrated state. Ginger Beer and Ginger Ale made with this Essence will possess an amount of Aroma, Flavour, and Quality that have hitherto been without precedent, and that will be sure to command a large sale.

THE COST IN MANUFACTURE IS ABOUT ONE FARTHING PER DOZEN BOTTLES.

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This Extract is strongly recommended for the manufacture of Ginger Ale, to which it imparts an unusually Fine Flavour and Great Brilliance, at a cost of a little under 1d. per dozen bottles.

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PREPARED BY

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		Bottles, per doz.	Siphons.
Carbonated Water	at 1/0	1/6
Soda	5 Grains to half-pint	... "	1/0 1/6
Soda	B.P., 15 "	... "	1/0 1/6
Potash	5 "	... "	1/0 1/6
Potash	B.P., 15 "	... "	1/0 1/6
Seltzer	" ... ... ...	... "	1/0 2/0
Lemonade	... ... ...	... "	1/3 } 1/3
Lime Juice	... ... ...	... "	1/3 }
Ginger Ale	... ... ...	... "	1/3 2/6
Ginger Beer, Glass	... ...	... "	1/3
Lithia, B.L., 5 Grains to half-pint	... ...	... "	1/9
Iron and Quinine Water	... ... ...	... "	1/9
Mineral Acid	... ... ...	... "	1/9

Bottles, at per doz., 1/6. Siphons at 24/. Cases, 3 doz., 3/6; 4 doz., 4/6; 6 doz., 5/6. Syphon Cases, 2 6.

Sparkling Rubine and Sparkling Limine, pints, at 3/2 per doz., bottles included. Six doz. at 3/ and 30 doz. at 2/10. Special terms for 5 gross and upwards bottled goods. Natural Mineral Water supplied at lowest prices. For further particulars apply to

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BINGLEY'S SUPERIOR GINGER ALE,

An Aromatic and Non-Intoxicating Stimulant.

Manufactured by a Special Process worked out by the Proprietor, by means of which the AROMATIC properties and TRUE DELICATE FLAVOUR OF JAMAICA GINGER are fully retained. It is confidently offered as a very superior article.

The following are a few of the opinions which have been expressed in reference to

BINGLEY'S GINGER ALE.

The Chemist and Druggist of January 15, 1883, in an article on "GINGER ALE," says, speaking of the Ginger Ale manufactured by Mr. BINGLEY, of Northampton:—"We are bound to report most favourably. Very few makers have succeeded in so perfectly presenting the odour and aroma of Jamaica Ginger in a clear, bright, sparkling beverage."

The Midland Medical Miscellany of August, 1883, in a note referring to BINGLEY'S AERATED WATERS, says:—"We are particularly pleased with the Ginger Ale, which, as is not always the case, really presents the flavour of Ginger."

THE FOLLOWING ARE A FEW OF THE OPINIONS EXPRESSED BY CHEMISTS AND OTHERS:—

"Excellent in every way."

"I like the Ginger Ale very much."

"We have tasted the Ginger Ale, and like it very much; indeed, it is the best thing of its kind we have met with."

"We have received the case of Ginger Ale, and have tasted a bottle with one of . . . We think that your article has the advantage in point of delicacy of flavour."

"Having carefully tasted the Ginger Ale you were good enough to send me, and also submitted it to the judgment of a friend in the trade, I can speak of it advisedly in terms of high recommendation. The aroma is very fine, and the full, generous warmth in the mouth is as near perfection as possible."

"I will write you about the Ginger Ale; it is first rate."

"Capital stuff is this Ginger Ale."

"The sample of Ginger Ale you were good enough to send me appears exceedingly good, and I shall be glad if you will send me one case at your convenience."

"Your Ginger Ale is excellent, and I shall be very glad if you will send me a case."

"Your sample of Ginger Ale is everything that can be desired. The fine flavour of the Ginger alone shows the care with which the essence has been prepared; it will certainly command a line in my next order."

"I have received the sample of Ginger Ale, and beg to state that it is the best I have ever tasted."

"I am pleased to say that so far the customers we have supplied with your Ginger Ale have been very pleased with the same."

"Your Ginger Ale is very delicious."

"The Ginger Ale arrived a week ago; I think it is very nice indeed."

"I certainly have not yet tasted anything to touch it."

MANUFACTURED BY

JOHN BINGLEY, Analytical Chemist, NORTHAMPTON.

All persons who are interested in such beverages, either for the Home or Export Trades, are earnestly invited to send for samples, which will be supplied gratis.

HAY'S SOLUBLE ESSENCE OF MESSINA LEMONS, FOR THE PRODUCTION OF THE FINEST LEMONADE.

Added in the proportion of one fluid ounce to each gallon of syrup, the soluble essence imparts the most delicious flavour of the Lemon.—*The Chemist's Journal.*



The Essence mixes well with water, and has a delicate flavour. The Lemonade made therewith has a far more delicate flavour than that generally met with.—*The Chemist and Druggist.*

Trade Price, 8/6 per lb.; 12 lbs. and upwards, 8/-.

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NEW AND IMPORTANT DISCOVERY.

GINGER ALE
FROM PURE JAMAICA GINGER.

THE ROYAL YORKSHIRE
SHIRE GINGER ALE.
from Pure Jamaica Ginger. Is Non-
Inoxicating.



ABSOLUTELY PURE.—
See Analysis by Drs. J. H. HASSALL,
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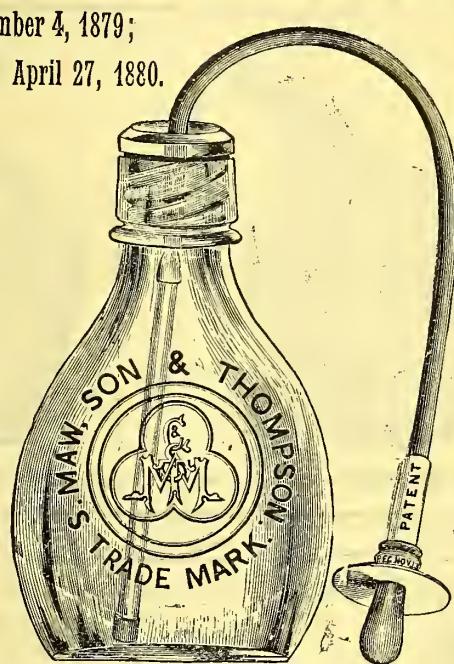
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FOR SPECIAL QUOTATION, SEE PAGE 7.

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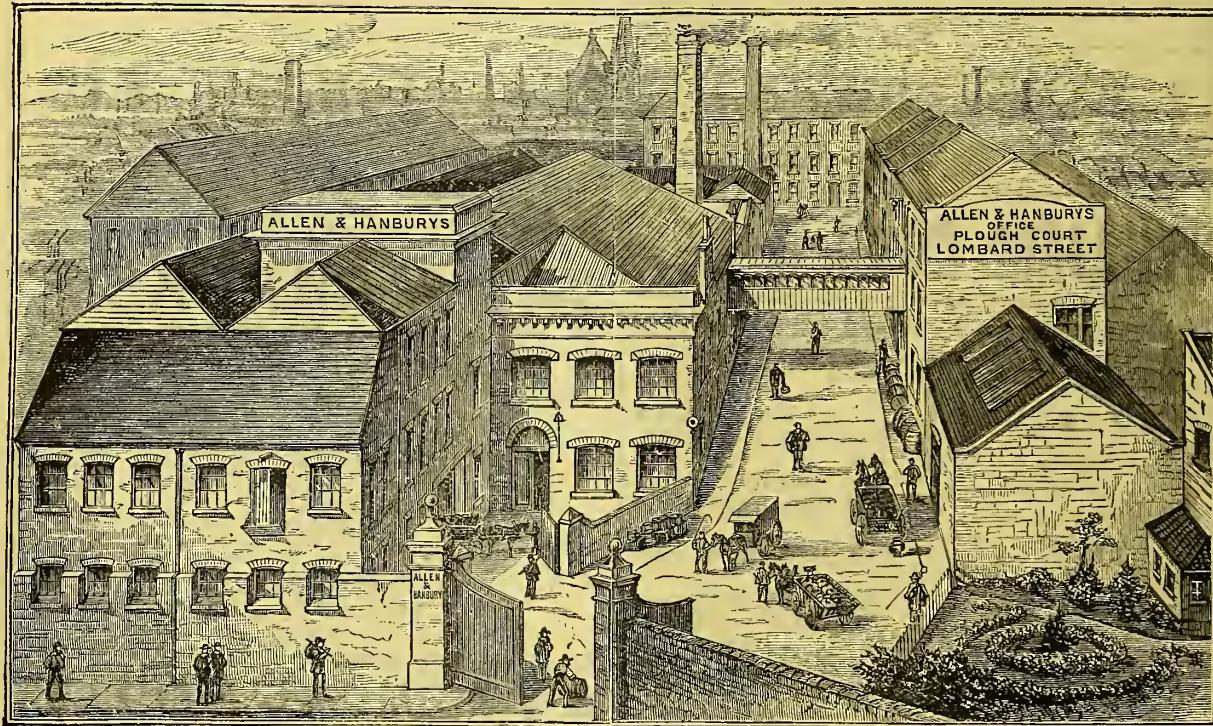
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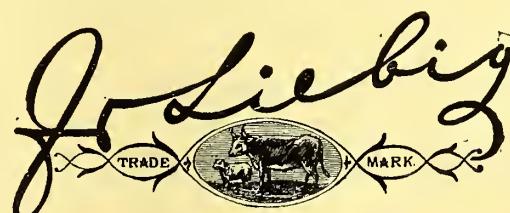
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Dear Sir,—I beg to enclose cheque, value —, in settlement of your account, for valuation, &c., and shall be glad to have your receipt for the same.

The executors are perfectly satisfied with your conduct of the matter, and for my own part I may say that, if in a similar case I require the services of a valuer, I shall be happy to call you in.

Yours faithfully,

FRANK S. GOODWIN.

Mr. Thomas Tomlinson, 41 Corporation Street, Manchester.

J. H. Clegg, Solicitor. 15 Acres Field, Bolton, July 3, 1884.

Dear Sirs,—Re John Cunliffe, chemist, deceased, I have received your letter of 30th ult., and beg to enclose Mrs. Cunliffe's cheque for —, amount due to you for valuing, &c., and disposing of stock-in-trade of deceased. I have much pleasure in expressing, on behalf of my client, the executrix, her satisfaction with your painstaking valuation and your attention in conducting the negotiations eventually resulting in a sale of the stock, &c., and, so far as I am concerned, I am happy to concur in that expression of satisfaction.

Yours truly,

J. H. CLEGG.

Messrs. Thomas Tomlinson & Son, Commercial Agents,
 41 Corporation Street, Manchester.

A good property, consisting of two valuable and profitable proprietaries, to be disposed of, which may be made to realise £300 to £400 a year, with little trouble or time; price £1,000.

CHEMISTS' TRANSFER AGENCY,
416 STRAND, LONDON.

MESSRS. GLEDHILL invite gentlemen wishing to dispose of their Businesses, or to purchase, to communicate particulars.

RARE OPPORTUNITY.—Retail and Prescribing Business; established 20 years; returns £14 weekly; goodwill, including two specialties, £50; stock, &c., valuation, or £600 all; no opposition; best situation in market place; rent of shop and house £60; the district is populous and manufacturing. Messrs. Gledhill, Pharmaceutical Agency, 416 Strand, W.C.

L. D. S. DIPLOMAS
(SINE CURRICULO).

Chemists on Dental Register may be thoroughly prepared. Apply at once.

CHAS. BENNETT, Esq.,

Clevedon Villas, Bronshill Road, TORQUAY.

VIZER'S

CHEMISTS' TRANSFER AND ASSISTANTS'
REGISTRATION AGENCY,

Victoria Chambers, 55 Chancery Lane, London.

MR. EDWIN B. VIZER, Pharmaceutical Chemist, having been engaged in the business for the last 36 years, is prepared to offer special advantages to his clients.

The following businesses, among many others, from £100 and upwards, for sale:

SURREY.—A handsomely-fitted Pharmacy; large population; returns £600; price £550.

" " A Family, Retail, and Dispensing; good house and garden; returns £240; price £225.

KENT.—A recently-opened business, owner unexpectedly called abroad; price £300, less than cost of fittings, &c.

NORFOLK.—An old-established and sound country business; returns £1,200; price £900.

DURHAM, CO.—A General Retail with Dentistry; returns £400; price £300.

LONDON.—Several in various parts.

No Charge to Purchasers or Gentlemen making inquiries.

VALUATIONS CONDUCTED. PARTNERSHIPS NEGOTIATED.

ASSISTANTS' REGISTRATION DEPARTMENT.

Employers and Assistants should send early and full particulars of their requirements, with Registration Fee, 2/6, *Postal Order*.

Office hours, 10 to 4; Saturdays, 10 to 2.

BUSINESSES FOR DISPOSAL.

THE VALUABLE LEASE, Plant, Stock, &c., of a Soap and Perfumery Manufacturing Business in London, for sale as a going concern. For full particulars, Q. S. P. C., Messrs. Street Brothers, 5 Seville Street, W.C.

TO BE SOLD, a good Retail and Prescribing Business in thickly-populated neighbourhood; no opposition; established eighteen years; proprietor taking larger business. Address, Y. Z., 138 New Road, Battersea, S.W.

IN a leading West-End thoroughfare, an elegantly-fitted and well-stocked retail; corner large house; portion let off; an excellent opening for a young energetic man in possession of £300 to £400. Address, "Fides," 99 Devoushire Road, Chiswick, W.

WILTS.—A small but profitable light Retail and Agricultural Business; good house and large garden; stock and fixtures at valuation. Address, "Chemicus," 36 New Park Street, Devizes.

TO CHEMISTS AND DRUGGISTS.—For Disposal, in one of the largest towns on the East Coast, a good Retail and Dispensing Business; the situation is unexceptional, and rent moderate; satisfactory reasons for leaving. For terms and card to view, apply to Grimwade, Ridley & Co., Wholesale Druggists, Ipswich.

UNOPPOSED Village Trade for Disposal in South Staffordshire, pleasantly situated in rural district; large population; numerous resident gentry; established 30 years; convenient house and shop, with plate-glass double front; returns over 600/- at full prices. For further particulars, apply, W. F., care of Wyleys & Co., Wholesale Druggists, Coventry.

AN excellent Opening for a Chemist with small capital; an increasing business, established nearly three years, in a new and populous suburb, in the main road to a large city, and close to two railway stations, no other chemist near; satisfactory reasons for leaving. 199/15, Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

SUBURBAN CASH BUSINESS, Retail and light Wholesale combined; good profits, with increasing business and undoubted scope for an energetic gentleman; shop beautifully fitted in modern style; rent £50, with valuable lease; returns £785; cash price £680; reference to wholesale houses, and satisfactory reasons for disposal; no agents. 220/11, Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

IMPORTANT to Dispensing or Photographic Chemists.—Owing to sudden illness of proprietor, the old-established business of a Chemist and Druggist in a rising Town in the Midlands must be disposed of immediately; there is attached to it a profitable Photographic and Optical Business, and has been established 40 years. Full prices obtained for Patents, &c., Club Dispensing, and several promising specialties. J. Wingrave, Allington Villa, Coventry, or to A. Wingrave, 10 Pall Mall, S.W.

IMMEDIATELY, through continued ill-health, in a select and fast-increasing country-town, a First-class Dispensing, Prescribing, and General Retail; very profitable; shop (double front), well fitted, and stocked; a thoroughly reliable business, capable of great increase; some excellent proprietary medicines; good opening for dentistry; an immediate purchaser liberally treated. Address, "Chemicus," care of Messrs. Sonthall Brothers and Barclay, manufacturing chemists, Birmingham.

MESSRS. HINE GILBERT have for Transfer:—Fashionable seaside town, two, high-class Pharmacy returning over £3,000 per annum; a year's returns required. Another, returns £2,000 at good profits; price £1,500. Near London, a splendidly-fitted Shop; net profits approach £600; only £1,200 required. Southern Suburb, commanding Corner, handsomely fitted; profits £400; price £500. Another, returns £350 under assistant; price £130. 17 Hart Street, Bloomsbury, W.C.

NORTHAMPTONSHIRE.—For Immediate Disposal, a Genuine Business, in a prosperous village, with a population of over 4,000, most of whom find steady employment at their own homes and factories in producing a staple in constant demand; has also a good connexion in cattle food, sheep dipping, &c.; situated in a first-rate agricultural district; no other chemist within five miles; modern stone-built house, with coach-house, garden, &c.; shop well fitted; returns exceed £500. per annum; capable of great extension by attention; rent, 40/-; 9 years' lease; price £50/-; personal inspection invited. Apply, X. F., care of Wyleys & Co., Wholesale Druggists, Coventry.

BUSINESSES WANTED.

WANTED, a Good-class Business, with good house and garden; about 500/-; north of England preferred. Apply by letter, in confidence, to "Chemist," care of 98 Acre Lane, Brixton, London, S.W.

A GOOD well-established Country Business wanted, or an unopposed Village Business would be entertained, which will produce a net income of from 400/- to 500/- per annum; large house; garden desirable; must bear strictest investigation; no agents. Apply, with full particulars, to "Druggist," care of Messrs. Gabriel & Stoke, 82 City Road, London.

SHARES.

EXCEPTIONAL OPPORTUNITY.—Eight per cent. Investment for disposal; twenty-five Shares of £10 each, fully paid, in a Tramway Company, bearing eight per cent. guaranteed interest; price £9 per share. "Executor," Messrs. Deacon's, Leadenhall Street.

EMPLOYERS WANTING ASSISTANTS.

A MAN wanted; one used to Laboratory work, and to make himself useful in a warehouse. Apply, stating age and wages expected, to E.L., 72 Hatton Garden.

JUNIOR ASSISTANT wanted, who understands postal work; a knowledge of single needle desirable; must be neat dispenser, and be well recommended. Apply to "Chemicus," 50 Queen's Road, Brighton.

WANTED, an Assistant, about 24 or 26 years old, with Minor qualification; state salary required, last employment, &c. 220/7, Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

IMMEDIATELY, a trustworthy, energetic Junior Assistant, with country experience, for the Retail in a good Mixed Agricultural Business in Cambridgeshire; time for study. Apply, personally or by letter, to F. Macpherson, 1 West Ham Lane, Broadway, Stratford, E.

WANTED, experienced Traveller, with good connection amongst druggists, soap-makers, and wholesale buyers of essential oils, extracts, &c.; good personal references indispensable. 220/12, Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.:

WANTED immediately, an Assistant, or one who has served part of his time to a Chemist, a previous knowledge of homoeopathy not absolutely necessary. Apply, by letter in the first place, to the proprietor of the Bristol and West of England Homoeopathic Medicine Supply, 37 High Street, Bristol.

ASSISTANTS WANTING SITUATIONS.

MR. R. SMITH, Registered Chemist, 1 King Street, Dover, takes occasional duty during absence or illness; disengaged for October.

MANAGER, with a view to succeed. A. E. Bertie Smith, W. Bates & Co., Southampton.

AS JUNIOR or Improver, in London or suburbs, where a knowledge of dispensing might be acquired; aged 19½; height, 5 feet, 8 inches; disengaged October 16th. Williams, Chalmers & Son, Newport, Salop.

SITUATION wanted, as Improver in a Dispensing and Retail Business; general experience; passed Preliminary. R. Kelland, Bewsley, Copplestone, Devon.

AS TEMPORARY MANAGER or *Locum Tenens*; great experience, town and country; highest references. Address, W., 65 Loughborough Road, S.W.

SITUATION as Traveller, part salary and commission, or Position of Trust in Warehouse; experienced. Address, 219/24, Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

CHEMISTS AND DRUGGISTS.—Wanted, by a Middle-aged Man, a Situation as Assistant; accustomed to a good Mixed country trade; married; in or outdoors. Address, 219/23, Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

MISCELLANEOUS.

PROPRIETARY ARTICLE FOR SALE.

OWING to want of capital, 198/21 wishes to Sell Goodwill and all rights in an excellent Veterinary Specialty; profits on last year's sales over 60/-, with very little trouble; it has never been advertised; capital opportunity for a chemist in a mining or agricultural district; first-class testimonials from masters of hounds, colliery managers, noblemen, &c. Address, 198/21, Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

JUST WHAT'S WANTED!!

Novel and Attractive Window and Counter Tickets, handwritten in White and Gold on Black ground, in original styles, 2s, 3s, and 6/- per doz., and larger sizes in proportion. Sample 3 tickets, any wording, free for 13 penny stamps.

Show Cards, 12x9 in., in White and Colours on Black ground, 2/- each, 21/- per doz. Sample Card, any wording, free for 2d penny stamps. Prices of larger sizes on application. Specially adapted for Proprietaries.

T. BROOKS, Chemist, Louth, LINCOLNSHIRE.

CASH versus CREDIT.

SEND FOR

BASTIN, McGREGOR & CO'S NETT CASH LIST.

B., M. & Co. continue to supply on their most favourable terms.

Wholesale & Export Druggists,

13 and 15 JACKSON'S ROW
(Goods Entrance—22 LLOYD STREET),

MANCHESTER.

PRICE LIST FREE ON RECEIPT OF TRADE CARD.

TALC

(HYDROUS SILICATE OF MAGNESIA).

Brilliant white, unctuous feel, of an extraordinary fine quality; guaranteed pure, free from grit. Also ordinary sorts on hand. Delivered, freight paid, to any station.

M. ELBOGEN,
ALSERGRUND, VIENNA, AUSTRIA.

HAMBURG SPECKLED.



LEECHES!

Warranted Healthy, Wholesale
and for Exportation, Direct
from Marshes.

FITCH & NOTTINGHAM,
Leech Breeders,

MARSEILLE, & 55 PENTONVILLE
ROAD, LONDON, N.

All Orders by Post receive immediate attention.

"THE ILLS OF LIFE."
"TOOTHACHE," "CORMS," & "CHILBLAINS."

WARRANTED CURES FOR THE ABOVE.

These preparations are thoroughly practicable, apply well, are easily made, and may be sold with confidence. Recipes, 1/1 each, 3 lb 2/6, with full directions, post free. Please note my advertisement in "Exchange Column" in terms—"SATISFACTION GUARANTEED." Detailed Printed Lists free.

T. BROOKS, Chemist, Louth, LINCOLNSHIRE.

IMPORTANT TO PHYSICIANS, SURGEONS, & CHEMISTS.
ROYAL BALSAMIC

PLAISTERS

MANUFACTURED BY WILLIAM MATHER,

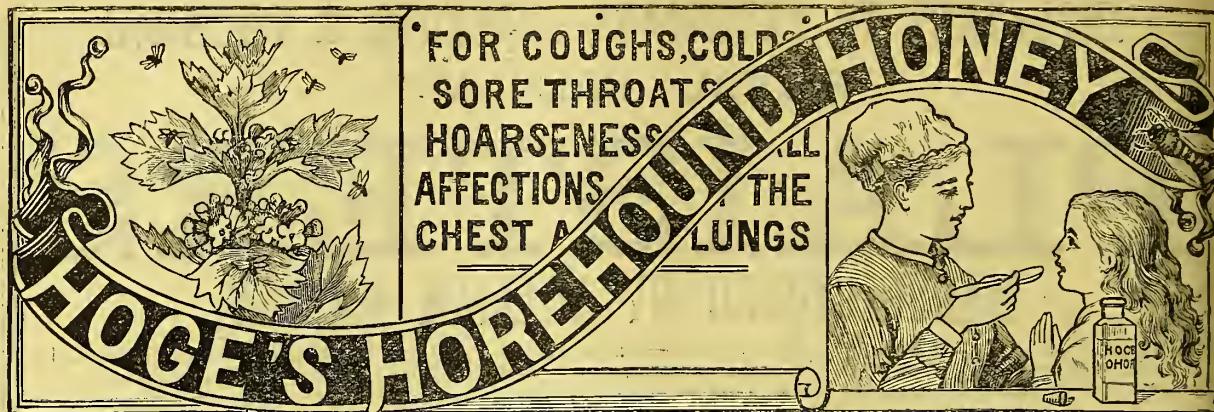
Are manufactured of the same kind of ingredients as those sanctioned and ordered by Dr. Andrew Smith, Director-General of Her Majesty's Army and Navy Ordnance Medical Department, for the use of the Soldiers and Marines in Scutari Hospital.

LEATHER PLAISTERS.		No.	Full Size of Leathers.	Retail Prices.	Per doz.	Royal Balsamic Plaister.	Cod Liver Oil.	Plain Plaister.	Emp. Roborans or Calefaciens	Emp. Belladonna No. 1.	Emp. Belladonna No. 2.
Heart Shape		1	Inches. 3 x 4½	d. 1 size.	"	s. d. 0 8	s. d. 0 8	s. d. 0 8	s. d. 0 8	s. d. 1 4	s. d. 1 0
		2	4½ x 6	1½ "	"	1 0	1 0	1 0	1 0	2 0	1 6
		3	4½ x 7½	2 "	"	1 6	1 6	1 4	1 4	2 8	2 0
		3½	5½ x 7½	3 "	"	2 3	2 3	2 0	2 0	4 0	3 0
		4	6½ x 8½	4 "	"	3 0	3 0	2 8	2 8	5 4	4 0
		5	8 x 9½	6 "	"	4 6	4 6	4 0	4 0	8 0	6 0
Long Shape		1	2½ x 4	1 "	"	0 8	0 8	0 8	0 8	1 4	1 0
		2	4½ x 6½	2 "	"	1 6	1 6	1 4	1 4	2 8	2 0
		2½	4½ x 8½	3 "	"	2 3	2 3	2 0	2 0	4 0	3 0
		3	5½ x 9½	4 "	"	3 0	3 0	2 8	2 8	5 4	4 0
		4	6½ x 11	6 "	"	4 6	4 6	4 0	4 0	8 0	6 0
		5	7½ x 14½	8 "	"	6 8	6 8	6 0	6 0	12 0	8 0
Oval Shape		1	4½ x 6½	2 "	"	1 6	1 6	1 4	1 4	2 8	2 0
		2	6½ x 8½	4 "	"	3 0	3 0	2 8	2 8	5 4	4 0
		3	7½ x 9½	6 "	"	4 6	4 6	4 0	4 0	8 0	6 0
Saddle Shape		1	6½ x 12½	6 "	"	4 6	4 6	4 0	4 0	8 0	6 0
		2	7 x 15	8 "	"	6 8	6 8	6 0	6 0	12 0	8 0
		3	8 x 16	12 "	"	8 8	8 8	8 0	8 0	15 6	12 0
Wrist		1	3 x 10½	3 "	"	2 3	2 3	2 0	2 0	...	...
Knee		2	4½ x 15	6 "	"	4 6	4 6	4 0	4 0	...	...

BREAST PLAISTERS.		No.	Size of Leather	Retail Prices.	Per doz.	PLAISTERS, SPREAD.—Prices per Dozen Yards. 16 Inches in width.						
				d.	s. d.	NAME	Glazed Cloth	Unglazed Cloth	Linen	Swans-down	Mole-skin	Skins of Leather
Emp. Plumbi, for Ladies' Breasts ..		1	Diam. 6½ in.	4 size	2 8	Emp. Aohæsivum Opt...	4/0	5/6	12/0	12/0	21/0	4/0
ditto spread on Chamois ..		2	" 7½ "	6 "	4 0	" Ammon. c. Hydrgarg	3/6	..	..	..	..	..
ditto ..		1	" 6½ "	.. ..	4 0	" Antim. Pot. Tart...	16/0	..	..	30/0	38/0	5/6
ditto ..		2	" 7½ "	.. ..	6 0	" Belladonna	10/0	..	..	24/0	30/0	4/0
BREAST PLAISTERS.		No.	Size of Leather	No. 1 Quality. Per doz.	No. 2 Quality. Per doz.	Calefaciens	18/0	20/0	27/0	27/0	36/0	5/6
Emp. Belladonna, for Ladies' Breasts ..		1	Diam. 6½ in.	5 4	4 0	" Cerat Saponis	11/0	12/0	15/0	15/0	24/0	4/6
ditto ..		2	" 7½ "	8 0	6 0	" Dreadnought	8/0	9/0	14/0	14/0	24/0	4/6
ditto spread on Chamois ..		1	" 6½ "	8 0	6 0	" Elemi	9/0	10/0	14/0	14/0	24/0	4/6
ditto ..		2	" 7½ "	12 0	9 0	" Ferri	9/0	10/0	14/0	14/0	24/0	4/6
HOSPITAL PLAISTER, on Black Cloth, 16 in. wide, doz. yds. 8/0 " " " on White " " " 8/0												
Every other description of Plaister used in Pharmacy or Private Formulae spread on any material, to suit any climate.												

**MANUFACTURED BY W. MATHER,
DYER STREET, HULME, MANCHESTER, ENGLAND.**
 PRICE LISTS SENT ON APPLICATION.

London Wholesale and Export Agents: Messrs. MACE & HALDANE, 77 Milton Street, London, E.C.

**BEE PASTURAGE.**

NEW countries, where the natural luxuriance of plants is not checked by the grazing of domestic animals, are particularly favourable to bee culture, and when Mr. Hoge first visited California, he found it was one sweet bee-garden throughout its entire length, north and south, and all the way across, from the snowy Sierra to the ocean. Wherever a bee might fly within the bounds of this virgin wilderness—through the forests, along the banks of the river, along the bluffs and headlands fronting the sea, over valley and plain, and deep leafy glen, or far up the piney slopes of the mountains, throughout every belt and section of climate—bee-flowers bloomed in lavish abundance. During the months of March, April, and May, what is known as the bee-belt of Southern California is one smooth continuous bed of honey-bloom so marvellously rich that, in walking from one end of it to the other, a distance of more than four hundred miles, your feet would press more than a hundred flowers at every step.

Extending far out in the vast prairie, its unbroken bosom is often found to be one perpetual carpet of horehound flowers, lasting from spring until autumn. All the seasons are warm and temperate, so that honey never ceases to flow from this plant, which yields a profusion of blossoms almost unequalled in the vegetable kingdom. We can judge of their luxuriance, when there grows upon a slender, unobtrusive little bush upwards of 3,000 blossoms, five-eighths of an inch in diameter. Each of these are reservoirs that yield the most wonderful remedy in the world for the cure of coughs, sore throats, sore lungs, &c.—horehound honey. These miniature laboratories stamp with faultless certainty this honey with a colour and flavour peculiar to itself.

The work of the honey-bee is to gather the sweet treasure so divinely prepared, and bear it off, saying to suffering humanity, "Eat! It is the soul of the Blossom."

HOME TESTIMONY.

No Medicine ever came before the public with such unquestionable recommendations and distinguished patronage as "Hoge's Horehound Honey." It has proved a veritable revelation to all who have tried it.

THE LORD MAYOR OF LONDON ORDERS IT.

Mansion House, London, E.C.,

September 28, 1883,

The Lord Mayor would thank Messrs. W. M. Hoge & Co. to send him half-a-dozen of their "Hoge's Horehound Honey," which has been well recommended to him.

THE PRIMA DONNA.

Hawthorn Lodge, Finchley New Road, N.W.,
March 30, 1883.

Messrs. W. M. Hoge & Co., London.

Gentlemen,—I have much pleasure in stating that I consider your "Horehound Honey" the most wonderful remedy I have ever tried, possessing properties which are nothing short of marvellous, for the cure of affections of the throat and chest. I shall never be without a bottle of "Horebound Honey."

Yours very truly,
MARIE ROSE-MAPLESON.

Your Honey is delicious.

ELLEN TERRY.

W. L. BRIGHT, Esq., son of the RIGHT. HON. JOHN BRIGHT, M.P., said Hoge's "Horehound Honey" cured his father of a bad cough.

REV. C. D. KINGDON says "it makes the voice clear and pleasant, and takes away all that huskiness in the throat which is so uncomfortable to preacher and congregation."

**SUPPLIED BY ALL WHOLESALE DEALERS
AND BY
HOGE'S HONEY CO., Ltd., 12 GREAT EASTERN STREET, E.C.**

67 Warwick Road, Maida Vale, W.,
October 5, 1883.

Messrs. W. M. Hoge & Co.

Dear Sirs,—I have great pleasure in bearing testimony to the excellence of your "Horehound Honey" for the throat and the voice. I have used, and use it now at intervals, as I found it, for my voice, of great value, and, therefore, I can recommend it from my own experience, especially to singers.

Yours truly,
LOUISE LIEBHART.

38 Oxford Road, Islington, London, N.

Messrs. W. M. Hoge & Co.

Gentlemen,—I was troubled for a long time with a bad cough, which I feared was becoming chronic. I used your "Horehound Honey," and gave it a fair trial. I am happy to be able to tell you that it quite relieved me, and I recommend it as a certain cure.

Yours truly,
GEO. M. SMYTHE.

7 Suffolk Lanc, Cannon Street, E.C., London,

April 20, 1883.

Messrs. W. M. Hoge & Co., London.

Gentlemen,—Having suffered for many years with irritation of the throat and chest, I never found any remedy to relieve the irritation until I purchased a bottle of your "Horehound Honey," which I did a few days since. I want to inform you it had a wonderful soothing effect, affording relief at once. Please send me one dozen bottles, and oblige

Yours truly,
G. F. BLACK.

EXCHANGE COLUMN.

TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the Advertisement by the Publisher of THE CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to the "Publisher of THE CHEMIST AND DRUGGIST, Colonial Buildings, Cannon Street, London, E.C.", the envelope to be endorsed also with the number. The Publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

Dental and Surgical.

Cheap.—Dental cabinet, mahogany, equal to new, with 6 pairs nickel forceps; price, 3*l.*; approval, W. B. Fletcher, 46 Waterworks Street, Hull.

Thirty-cell Stohrer's constant-current battery, good as new, cost 11*l.* 11*s.*; patent magneto-electric machine, cost 3*l.* 6*d.*; 30-inch magnetic belt, retail 35*s.*, misfit; highest cash offers. Rickwood, Chemist, Bath.

Drugs and Chemicals.

Fifty lbs. gold or copper bronzes, any shade, 7*s.* 6*d.* lb., in ounce packets; cash with order; sample packet 10*s.* Lockwood, Chemist, 30 The Moor, Sheffield.

Quinia sulph. (Howard's), 2 4-oz. bottles, 5*s.* oz.; pot. iodid., 7 lbs., 4*s.* lb., and some other drugs, being surplus stock removed from branch; list sent. 21*s.* 20*d.*

Optical.

Spectacles—6 doz. pairs aqua crystals, cost 4*s.* doz.; 1*½* doz. pairs tinted glasses, cost 5*s.*; in excellent condition; what offers? 21*s.* 4*d.*

Proprietary Articles.

Two dozen Gosnell's cherry paste, 1*l.*; 7 lbs. delectables, 10*s.* 21*s.* 30*d.*

Four doz. Judson's emerine, 5 doz. 6*d.* diamond dyes, 6 doz. 1*d.* assorted squares soap, all in good condition; offers wanted. Hubard, Chemist, Tamworth.

W. Pickles, having purchased the business of G. Craven, Batley Carr, Dewsbury, manufacturer of vermin-killer, has 60 half-guinea mahogany cases for disposal, containing 3 doz. 2*d.*, 2 doz. 3*d.*, and 1 doz. 6*d.* packets; price, 5*s.* each, carriage paid. W. Pickles, Chemist, Batley Carr, Dewsbury.

Educational.

A materia-medica chest, fitted up with the latest specimens, and suitable for a student. Young & Co., Chemists, Heckmondwike.

Botany.—100 indigenous plants, mounted, classed, named, 5*s.* free; invaluable to every student. "Chemist," care of J. Edwards, Wye, Kent.

Botany.—The indigenous officinal (medical) plants of this year's growth now ready, firmly mounted on cardboard, only 7*s.*; wild flowers, mounted, 7*s.* 6*d.* per 100. Higginson, Newferry, Birkenhead.

Set of illegible autograph prescriptions (original), 2*s.* 6*d.*, as presented to the Pharmaceutical Society of Ireland for their examinations; 30 prescriptions (catch and difficult) given to dispense at Minor during past 12 months, 2*s.*; 50 questions asked of successful students at last Minor, 1*s.* 1*d.*; lot of cheap, almost new, books. Stamp for list. Saunders, Medical Tutor, 6 Rochester Square, N.W. (Note change of residence.)

Literature.

Squire's "Companion," last edition; state lowest price, carriage paid. Wiggin, Ipswich.

Offers wanted for British Pharmacopœia, 1867, with additions; Garrod's "Materia Medica," 9th edition; condition of both equal to new. Harmer, Windsor.

Rhind's "Vegetable Kingdom," with several hundred figures, 5*s.*; "British Flora Medica," new, published 30*s.*, price 20*s.*; 4 vols. of "Medical Practitioner," 4*s.*; "Extra-Pharmacopœia," Martindale, 4*s.*; Barber's "Pocket Pharmacopœia," 1*s.* 6*d.*; botanical map, Barber, 1*s.* 6*d.* F. Brown, 6 Greenhead Road, Huddersfield.

Soda-water Plant.

Barnett & Foster have some second-hand soda-water machinery of their own for sale. Apply, 261 Eagle Wharf Road, Hoxton, N.

Second-hand soda-water plant—several in stock. Address, Bratty & Hincliffe, Sandford Street, Ancoats, Manchester.

Shop Fittings.

Iron mortar and pestle (new), diameter 15 inches, 16*s.* 6*d.* Hicks, Duke Street, Cardiff.

For Sale or Exchange.—Lamp bracket, Maw's fig. 10. Harrington, Middlesborough-on-Tees.

Show-bottles, specie-jars, shop-jars (all sizes and colours), lamps, store-bottles, glazed cases. 21 Broadway, Deptford.

Wedgwood mortars, four, new, Nos. 10, 8, 5, 3; cash offers requested for them. Brown, 3 Coleshill Street, Birmingham.

The entire fittings of several handsome chemists' shops, to suit all-sized shops. Lloyd Rayner, 46 De Beauvoir Crescent, Kingsland, London, N., and Leytonstone, E.

Wanted to exchange a 5-foot 6-inch dispensing-screen and 2 small cases, or cash, for a 7-foot 6-inch dispensing-screen. Thompson, Sparkbrook, Birmingham.

For sale, cheap, new specie-jar (York Glass Company's), 31 inches high, as fig. 213; marked "Magnesia," Pharmaceutical Arms; without stand; what offers? Shaw & Co., Chemists, Doncaster.

For sale, mahogany-fronted shelves, solid mahogany-fronted nests of drawers, glass cases, counter fronts, all in good condition, worthy the attention of any one fitting up a chemist's shop. Apply to W. J. Cooper, Pharmaceutical chemist, 58 Oxford Street, London.

Second-hand Fittings.—About 25-foot druggist wall-fittings, 12-foot wall-case, window enclosure, dispensing-screen, desk and case, cigar case, four carboys, two specie jars and stands, drug-scales, 14 dozen bottles and pots; 38*s.* Hawke & Son, London.

Quantity gold-labelled shop bottles and jars, carboys, specie-jars, show-jars, as fig. A and B Maw's; tincture-preserves, scales, pill-machines, cork-preserves, superior iron safes, deed-boxes, copying-preserves, &c. Lloyd Rayner, 46 De Beauvoir Crescent, Kingsland, London, N., and Leytonstone, E.

For sale, 1 range of 66 mahogany-fronted drawers, 12 feet long, with bevelled-glass labels and crystal knobs, price 9*s.* 5*d.*; 1 range of 66 pine-fronted drawers, 12 feet long, gold labelled, and brass knobs, 6*s.* 12*d.*; 1 dispensing-screen with mirror centre, 8 feet long, 7*s.* 10*s.*; 6 8-gallon carboys, 15*s.* each, new state; the complete fittings of a chemist's shop, including bottles, jars, carboys, &c., for 40*s.* Full particulars on application to R. Tomlinson, Medical Fitter, 15 St. Paul's Square, Birmingham.

Twenty nests mahogany gold-labelled shop-drawers; five nests deal-stained mahogany gold-labelled shop-drawers; four nests Treble's dispensing-counter drawers; fifteen superior nearly-new retail and dispensing-counters, all sizes; 10 ft. long new complete shop-fittings, with gold labels, as A 82 Maw's, 17*s.*; 12 ft. long ditto, 20*s.*, as A 83; 4 ft. long, 7*s.*; 6 ft. long, 10*s.*; 8 ft. long, 14*s.*; as A 84; 10 ft. long ditto, with glass labels and knobs, 21*s.*; 12 ft. long ditto, 25*s.* 10*s.*; two 4 ft. long one 5 ft. long, one 6 ft. long, one 7 ft. long dispensing-case screens, as A 54, 55, 56 Maw's; one 5 ft. long, one 6 ft. long, three 7 ft. long hand-screens dispensing-screens, with minor centres and a case at each end; quantity bent, flat, and upright counter-cases, all designs; tooth-brush and sponge cases, shop-chairs, shop-lamps. Lloyd Rayner, 46 De Beauvoir Crescent, Kingsland, London, N., and Leytonstone, E.

Second-hand Fittings.—Nest 47 usnial drng drawers, 50*½* ins. long, 47*½* ins. high, 3*l.* 10*s.*; counter-case, as Maw's A 4, 4*s.* 1*d.* in. long, 25 in. wide, 23 in. high, no carving, 6*s.*; Spanish mahogany dispensing-screen, plate-glass sashes, tablets, pilasters, trusses, 10*l.* in. long, 23*½* in. high, 7*s.* 10*s.*; mahogany wall-case, three bent plate-glass doors, silvered plate to ends, 7*s.* 10*s.*; plate-glass counter-case, 4*s.* 1*d.* in. long, 16 in. wide, trays, 2*s.*; 27 plate-glass shelves, polished edges, various lengths, and widths, 2*s.* each; 2 specie-jars, arms, ornamental tin covers, 2*s.* in. high, and stands, 3*l.*; 4 specie jars whitened, and 3 plain ornamental tin covers, scroll labels, 23*½* in. high, and plinths, 30*s.* each; 6-gallon carboy, cut stopper, 12*s.* 6*d.*; 3 3-gallon carboys; 1 2-gallon flat-front and 3 stands, 27*s.* 6*d.*; 2 3-gallon cylinders, 10*s.*; 15 1-lb. blue pots and 55 stoppered rounds, no labels, 38*s.*; 2 counter gas pillars, 15*s.*; 5 gas window-branches, 12*s.* 6*d.* Hawke & Son, Wild Court, Great Wild Street, London.

Formulæ.

Revive your lavender-water trade by using my famous formula, which with my list I will still forward for 7 stamps. "Devoniensis," Broadhempston, Totnes.

Honest, Reliable Formulae, all in actual commerce, satisfaction guaranteed.—"Glycerine Cream," an elegant preparation for roughness of skin, invaluable at all seaside resorts, certain sale; "Entirely New Remedy for Toothache," gives instant ease, not injurious to other teeth; "Nigerine," jet-black, waterproof patent blacking, cheaper, sweeter, and better than Nubian; "Digestive Relish," best and cheapest sauce in creation, from 3s. gallon; "Lupnline Bitters," equal to American in every respect, one-third price; "Limes and Glycerine," elegant, creamy, snow-white, quite inseparable, pronounced best in market; "Foaming Dentifrice," resembles Floriline, costs one-eighth; "Rheumatic Embrocation," most excellent, cannot be surpassed in cheapness and efficacy; "Blood-purifying Powder" (London surgeon's recipe), popular spring and autumn remedy; "Anti-spasmodic Elixir," simple, reliable, always efficacious; "Cameomile and Quinine Pills" for indigestion, &c., frequently preferred to Norton's; "Efervescent Depurative Saline," *fusimile* of Eno's, costs 10d. lb., entirely soluble, keeps well; "Cryptzomosis," certain speedy cure for gleet, &c.; "Mist. Gonorrhœa" (caviphi), nauseous taste masked, unfailing remedy; "Hair-restorer" (*sine* sulphur), clear, sweet, economical, confidently recommended; "Liver Pills" (vegetable), gentle action, always effectual; "Lavender Water," superb fragrance, lasting, equals Sainsbury's; "Occasional Pills" (for ladies), most reliable, preferred to Widow Welch's; "Essence for Deafness," simple and effectual; "Podophyllin and Taraxacum," pleasant taste, vastly superior to similar preparations; "Pile Powders and Ointment," cure and prevent haemorrhoids; "Quinine and Iron Tonic," bright and unchangeable, resembles Pepper's; "Worm Syrup," entirely vegetable, pleasant and rapid action; "Ringworm Specific," certain rapid cure; "Tic Pills," unequalled in efficacy, many testimonials; "Chlorodyne," inseparable, perfectly soluble, quite equals Brown's; "Marking Ink," indelible, no waste, creditable to seller; "Fumigating Ozonite Ribton," cheapest, sweetest, perfect disinfectant. All above guaranteed genuine formulæ, are profitable, and may be recommended with confidence. Price 1s. 1d. each, 3 for 2s. 6d., 25 for 1l., post free, with full particulars for making, &c., by T. Brooks, Chemist, Louth, Lincs. N.B.—Detailed list sent post free.

Fragrant foaming dentifrices (like "Floriline"); marking ink, *sine* silver (aniline), writing executed defies chemicals; effervescent fruit saline (resembles Eno's); magio neuralgic drops (never-failing remedy); quinine and iron tonic (resembles Pepper's); lime-juice and glycerine (inseparable, white as milk); blue-black ink (non-corrosive, *sine* iron or gall); cherry tooth paste (never ferments; like Gosnel's); brilliantine (inseparable, like Rimmel's); pill-coating, (pearly white, no mucilage or mastic used); glycerine jelly (perfectly transparent); crimson marking-ink; hair-restorer (colorless, no deposit, *sine* silver); aromatic vinegar; toilet vinegar (as Rimmel's); plate-powder (like Stevens' "Silicon"); Oleum Flavum Conc., for pomades (colour stable); soluble essence ginger (like Hay's); corn solvent, clear (not acid); liquor copaiba comp. c. buchu et matico (mixes clear with water); gonorrhœa paste, excellent (Dr. Ricord's); taraxacum and podophyllin (resembles Pepper's); with many others; send stamp for list, stating wants. The toilet preparations are identical with those prepared by a wholesale West-end firm; others equally good; all inexpensive to make; 5s. each (five for 1l.). Readers are cautioned against cheap and worthless imitations. I was first to advertise formulæ in this journal. "Analyst," care of Mr. Warnes 6 Rochester Square, N.W. (Note change of address.)

Miscellaneous.

Oil-pipes (twenty) for sale, singly or together, 10s. 6d. each; extra large ones, 12s. Kemp, Newcastle.

Lowndes' spirometer; cost 4l. 16s. few months ago; what offers in cash or patents, &c.? 219/12.

Indian ring-necked paroquet, tame, talks a little; price, with nearly new zinc parrot's cage, 17s., or exchange. J. H. Aldridge, Market Place, Hertford.

Tropholme's patent duplex lamp-oil measure, two cisterns 85 and 40 gallons, 40-foot lead pipe, bargain. Squire, Openshaw, Manchester.

Twelve gallon cans Proctor's pix compo wheat-dressing, at 1s. 6d. gallon carriage paid. Samuel Griffith, Pharmacist, Blandford.

Quantity disinfectants, proprietary articles, sundries, &c., and a few good cigars cheap. Dalton, 48 Higher Bridge Street, Bolton.

Seltzogene (Geralt's), complete, wire, 3 pints, covered; new this year; offers wanted. Mahogany-framed pill-machine, 245-gr., with roller complete; what offers in cash or goods? 12/219.

Two galvanised-iron cisterns, with cap covers, 40 gallons; 2 iron cisterns with stout iron bands, screw-plugs in top, taps complete, as new, 80 gallons; have been used for benzoline and petroleum. Cocher, King's Lynn.

Two 60-gallon oil-cisterns, 20s. each; 6-quart tin still, 10s. 6d.; 300 test-tubes, cheap; 6 dozen Bradbury's carbonic solution, 4s. dozen; 3 dozen Bradbury's foot-rot liquid, 4s. dozen; 1-gallon pear-shaped carboy, cut stopper, 3s.; 5-grain mahogany pill-machine, 12s. 6d. Mills, Chemist, Merthyr Tydfil.

In consequence of retirement from business.—Teats, white, small, 4s. 6d.; medium, 8s.; large, 11s.; black, small, 8s.; medium, 11s.; large, 12s. 6d.; tubing, white, 5s., black, 10s. per lb.; syringes, glass, $\frac{1}{2}$ -oz., 1s. 7d.; 1 oz., 2s. 6d.; corn-plasters, white felt, thin, 1s. 2d., thick, 1s. 9d. gross; bunion-plasters, thin, 2s. 9d., thick, 4s. gross; glass tubes for feeders, 1s. 2d. gross. J. Ashton, 75 Crayford Road, Holloway.

WANTED.

Wanted 4-lb. shop-pots, blue or red. Samuel Griffith, Pharmacist, Blandford.

Chemist's street lamp; state price, design, and particulars. 217/15.

I want a pill-machine for 24 and a No. 9 mortar. 218/3.

Good microscope. Particulars to W. Selleck, Bovey Tracey, Devon.

Myers' cattle spice, fresh; state price, A. Dyson, Chemist, Bacup, Lancs.

Large iron mortar. Harrington, Middleborough-on-Tees.

Part or whole of bottles, jars, cases, &c., of small shop, must be in good condition. L., care of Taylor, Jeweller, Pendleton.

Fixtures of chemist's shop, in good condition. State lowest price to "Tertius," 264 West Derby Road, Tuebrook, Liverpool.

A set of gramme weights; state lowest price and particulars. Address, Charles Scanlan, Chemist, Droylsden, near Manchester.

One 80-gallon petroleum-cistern, in good condition, brass tap. Lowest price to S. W. Moody, 6 Walkergate, Louth, Lincolnshire.

A few bottles "Navigantine," or address of the maker; also Schouwer's Red Cross pills and "Kola." Any chemists having patents not saleable in their locality please send a list. E. Mickle, 48 Stanley Road, Liverpool.

Addresses and Information Wanted.

Pipe, H., late of Cricklade, Wilts, by John Green, Swindon.

Address wanted of Sir Richard Mansell, Bart. Any chemist who may be receiving his patronage for large bottles of Cologne, 1lb. boxes of jujubes, &c., will oblige by writing to W. Lamacraft, Chemist, Putney.

ADVERTISERS' AND BUYERS' REFERENCE LIST.

CONTINUED FROM PAGE 40.

Soap (Soft)

Chiswick
Colthurst
Thompson (Saddle)

Soda Bicarbonate
Gaskell, Deacon & Co.

Spectacles

Darton
Spirit, Pure and
Methylated

Burrough (Pure & Meth.)
Harvey & Co. (Meth.)
Jones (Methyl.)

Macrae, A., & Co. (Pure)
Sponge

Cresswell
Lynch & Co.
Moore, A. & F. II.
Peterson

Stamps
Baddeley (Metal & Rubber)
City Rubber Stamp Co.
Fleming & Co.

Starch

Critchley (Gloss)
Mumford (Powder)

Strychnine

Whiffen

Sulphur.

Forster & Gregory

Scott & Co.

Surgical

Bailey

Bourjeaud

Haywood

Lindsey

Pocock Bros. (Water Bed)

Savar

Siphons

British Siphon Co.

Gerant

Gueret

Idris Manufacturing Co.

Talc

Elbogen, M.

Tea

Kangra Valley (Indian)

Walker & Dalrymple

Thermometers

Darton

Tin Canisters

Lloyd, A., & Sons

Self-opening Tin Box

Tin Foil.

Betts & Co.

Trusses

Bailey

Bourjeaud

Haywood

Lindsey

Maw, Son & Thompson

Philadelphia T. Co.

Savar

Scott, W. A.

Seelye

Vacuum Pans

Brinjes and Goodwin

Valuers

Brett

Gadd

Gledhill

Orridge

Taylor & Co.

Tompson

Upper

Vizer

Waite

Vermin-killers

Barber

Battle

Galzy

Hunter

Sanford (Rat Poison)

Steiner

Veterinary

Corner

Doy, Son & Hewitt

Gabriel & Troke

James, R. J.

James, R. S.

Spratts

Varnishes

Colthurst

Jackson

Sanderson

Williams, M. (Knitting)

Vinegar-making.

Rothermel's Machine

Wines and Spirits

Goodall (Quinine)

Hirst, Brooke (quinine)

Lambe & Watt (Orange)

Robinson, B.

Woodhams

Waters, Distd & c.

Butler, McCulloch

Robinson, B. (Conc.)

Raynald (Rose, Orange Fl)

Wax

Cooking (Japan)

Fink & Co. (Bees)

Hyde & Co. (Sealing)

Waterton

Wholesale and Export Druggists

Beiss

Barron

Bastin, McGregor

British Chemists and

Druggists' Association

Burgess

Burgoyne

Christy, T., & Co.

Cooking & Co.

Cooper

Evans, Lescher

Gabriel & Troke

Harker, Stagg & Moss

Hewlett

Lennon, B. G., & Co.

Symes

Woolley, J., Sons & Co.

Wyley, A.

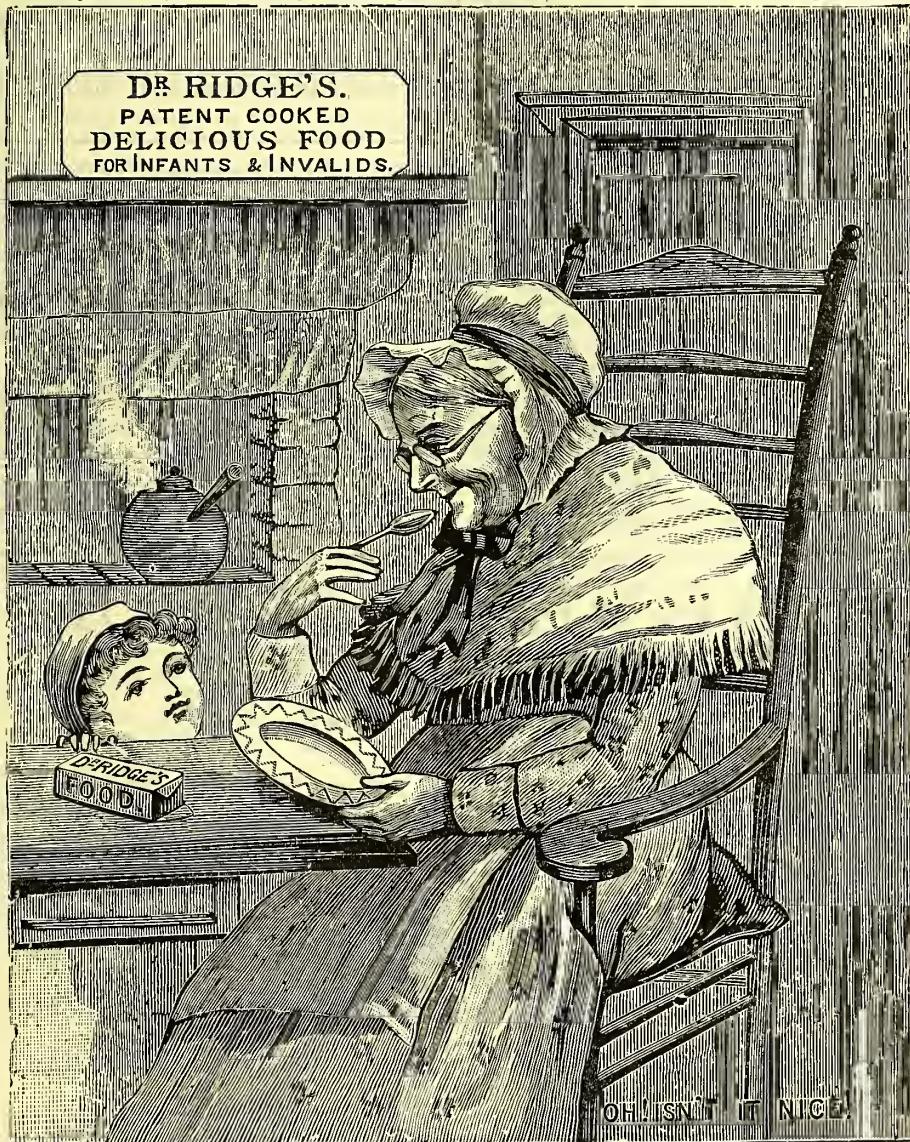
Zinc Oxide

Harris

"THE IMPORTANCE OF FARINACEOUS FOOD SUBSTANCES CANNOT BE OVERSTATED."

The staff of life as we receive it from the baker's hands may be in a very good and easily digested form for the healthy and strong; but custom has decreed that we must have our bread as white as it can possibly be *made*. We do not inquire how such a result is brought about, and many, no doubt, do not even know that pure white is not the natural colour of wheat ground into flour. The ordinary form of farinaceous food does not agree with every one, and we have all sorts of bread made and sent out, as cottage, household, home-made, digestive, whole-meal bread, brown bread, &c., the only difference discoverable, save between the white and the brown, being in the shape of the loaves. Even these distinctions failed to be satisfactory to all persons, and specially-prepared

"The impetus thus given to the trade in what was supposed to be specially-prepared farinaceous food was not, however, stopped by this exposure, and preparations of meal and flour from beans, peas, and cereals of every description became popular. But the necessity of a farinaceous food which should have a maximum of nourishment with a minimum of bulk, and which could be immediately prepared and partaken of by persons of weak digestion, infants, and invalids, was still felt, and to provide for such a want among his own patients, the well-known Dr. Ridge turned his attention to wheat. The knowledge that this cereal contains in a greater degree all the constituents for keeping the human body in health and strength was the reason for choosing before any other this particular grain. We have not space here to detail the rapid popularity which this famous food obtained. Nor can we particularise on the most interesting processes through which the food passes at



meals, about 1845, began to attract considerable attention in Paris and elsewhere, as being the very best diet for infants and young children. These articles were advertised as a certain cure for dyspepsia, constipation, &c. With the substance itself there was no fault to be found, and some of them met with considerable success. The only objection was the mystery in which they were shrouded; but this was dispelled by an edict of the French Government, which caused a commission of inquiry to be made into all secret remedies and nostrums. Chevalier, one of the professors of the Ecole de Pharmacie, analysed two of the most noted articles. One was found to be nothing but the pure meal of the lentil (*Ervum lens*), the other ordinary treacle, such as is sold in grocers' shops—both excellent in their way, but quite out of the reach of any but the wealthy at the prices at which they were sold.

the present manufactory; but our readers may form some idea of the enormous sale of Dr. Ridge's Food when we inform them that at the present time upwards of 4,000 tins and packets are consumed daily, and the sale is still rapidly increasing. Of all known subjects of alimentation milk alone is acknowledged to contain every element needful for the support of vigorous life; but pure milk cannot always be obtained, and when it is procured is invariably dear; therefore it became essential to find a cheap, handy, and health-giving substitute that could be used with equal efficiency either with or without milk. And, judging by the great success which has attended the efforts of Dr. Ridge, this has been most satisfactorily accomplished by the production of Dr. Ridge's Patent (Cooked) Food."—*Christian World*.

LEUBE-ROSENTHAL'S IMPROVED MEAT SOLUTION

Prepared by R. STUETZ, Chemist, Successor to Dr. MIRUS, Jena, Germany.

This carefully prepared Meat Solution contains the real stimulating and nourishing constituents of the best quality of beef, freed of fat and sinews. It is exceedingly appetising, and easily digested even by the weakest stomach. It can be taken either entire or diluted with water. It is totally devoid of that obnoxious, nauseous taste so common to most of the meat preparations. It will keep good in hermetically closed tins for any length of time.

Retail Price per Tin, containing 1 lb., 2/-; Wholesale, per dozen, 17/- net.

Wholesale Depôt: H. POTHS & CO., 4 Sugar Loaf Court, Leadenhall Street, LONDON, E.C.

KREOCHYLE BARFF AND WIRE. LIQUID MEAT.

FOOD AND STIMULANT FOR INVALIDS AND INFANTS.

To be obtained of all Wholesale Chemists, and

Sole Manufacturers and Patentees: THE KREOCHYLE COMPANY, BIRKBECK ROAD, LEYTONSTONE, E.

Prices—Retail, 5s per pint; 2s 9d. per half pint; 1s. 6d. per quarter pint.

SPECIAL NOTICE & CAUTION.

BRAND & CO.

The Original Manufacturers of Essence of Beef (green label under wrapper), and other Specialities for Invalids, have

NOT REMOVED

From their SOLE ADDRESS, No. 11
LITTLE STANHOPE STREET, MAY-
FAIR, W., and caution the trade to

BEWARE of IMITATIONS.



HARVEY'S SAUCE

For FISH,
STEAKS,
GAME,
&c.

CAUTION.

Each Bottle
of this celebrated
Sauce, prepared from
the Original Recipe, bears
the well-known Label, signed—

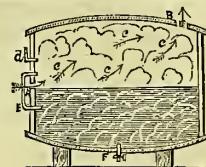
Elizabeth Lazenby

This Label is protected by PERPETUAL INJUNCTION in Chancery of the 9th July, 1858, and without it none can be GENUINE.

Prepared only by E. LAZENBY & SON, LONDON.
And sold Retail by Grocers, Oilmen, Italian Warehousemen, &c., throughout the Kingdom.

USE FREE FROM ALCOHOL
ARTIFICIAL OIL, OR
UMNEY'S PRUSSIC ACID.
PURIFIED BY AN
IMPROVED PROCESS
ALMOND ESSENCE

WRIGHT LAYMAN & UMLEY, MANUFACTURING CHEMISTS
SOUTHWARK, LONDON.



NEW METHOD OF MAKING VINEGAR
BY THE REVOLVING APPARATUS
(Michaelis' Patent).

For further particulars
See the Chemists' and Druggists' Diary, 1884, page 274
OR APPLY TO

PAUL ROTHERMEL,

105 (late of 27) LEADENHALL ST., LONDON.

CASH PRICE
20s. for 12½ GALLONS.
CASKS FREE.

School of Cookery, Crystal Palace, S.E.
January, 1883.

MR. PETER TYRER,
Sir,—I have been using the "Borough" Ketchup, and am very pleased with it. Its flavour is excellent, both for all kinds of Savoury dishes and Soups; and I most certainly should advise every cook and house-keeper to use it, FOR I HAVE NEVER YET MET ITS EQUAL. MAHIAN, SMITHARD,
Lectress on Cookery.

MANUFACTORY—
70 LONG LANE, BOROUGH,
LONDON, S.E.

Scotch Agency—115 West Nile Street, Glasgow.

DO NOT THROW MONEY AWAY
BUT WRITE
FOR A
FREE SAMPLE OF
SENT FREE
TO ANY ADDRESS

Tyler's SILVER MEDAL
"BOROUGH" LONDON.
Ketchup

SEVEN INJUNCTIONS have been granted during the past few months.

CAUTION! "YORKSHIRE RELISH."

NOTICE IS HEREBY GIVEN that in several actions instituted by Messrs. GOODALL, BACKHOUSE & CO., of LEEDS, Injunctions have been recently granted by Judges of the Chancery Division of the High Court of Judicature, restraining several persons from using several Counterfeits of Messrs. GOODALL, BACKHOUSE & Co.'s Labels, and in particular against the use of the words "YORKSHIRE RELISH." The sole and exclusive right to the use of which words having been finally established by the above Firm, they will take immediate proceedings against parties manufacturing or offering for sale Sauce under the above title, not being of the manufacture of Messrs. GOODALL, BACKHOUSE & Co.

Information may be given to the undersigned,

J. SEYMOUR SALAMAN,
12 KING STREET, CHEAPSIDE, LONDON,
Solicitor to the Trade Mark Protection Society.

TO INVALIDS
USE
MOIR'S
SOUPS

IN 1-lb. and ½-lb. GLASSES.

OX-TAIL SOUP (Clear)
MOCK-TURTLE SOUP (Clear)
BEEF TEA,
CHICKEN BROTH.

MUSTARD.

FINCH, RICKMAN & CO.'S
Genuine Qualities

Are made from the finest mustard seeds only. Their compounds, as manufactured for upwards of a century, are guaranteed free from all ingredients imparting spurious heat, and are therefore equally suitable for both table and medical purposes.

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DRUGGISTS' WAX, } "BEE" BRAND
BOTTLING WAX, } SOLD BY ALL
LETTER WAX, } Wholesale Druggists
PACKING WAX. } Sundrymen.

SOLE MANUFACTURERS—
GEORGE WATERSTON & SONS,
LONDON AND EDINBURGH

**The following well-known
MEDICINES, &c., OF APPROVED EFFICACY
ARE PREPARED FROM
PRESCRIPTIONS OF EMINENT PHYSICIANS
BY**

REECE & COMPANY

MEDICAL HALL,
PICCADILLY, LONDON,

From whom they may be obtained direct or through any of the Wholesale Houses.

PRICES AND TERMS ON APPLICATION.

DR. REECE'S SATURATED TINCTURE BUCHU,
For Excessive Irritation of the Bladder, Prostrate Gland, Urethra, Rectum, &c., &c.
Retail 2/9, 6/-, and 10/- per Bottle.

DR. ROBINSON'S TINCTURE CORNEL,
For Local or General Debility from residing in Tropical Climates, indulgences in either Drinking or Eating, &c.
Retail 2/9, 6/-, and 10/- per Bottle.

DR. SIGMOND'S TINCTURE CHIRAYITA,
For Indigestion arising from Nervous Excitement of the Stomach, Obstruction of the Liver, &c., &c.
Retail 2/9, 6/-, and 10/- per Bottle.

DR. WILLIAM'S ALKALINE WINE COLCHICUM,
For Gout and Rheumatism.
Retail 2/9, 6/-, and 10/- per Bottle.

**DR. REECE'S ALKALINE ESSENCE OF
GINGER AND CAMOMILE,**
For Indigestion from Debility attended with Flatulence and Spasms.
Retail 2/9 per Bottle.

DR. DUNCAN'S LETTUCE LOZENGES,
For Catarrh, Cough, Consumption, &c.
Retail 1/3 and 2/3 per Box.

DR. ANDREW'S ETHEREAL TINCTURE LOBELIA,
For Spasmodic Asthma.
Retail 3/- and 5/- per Bottle.

REECE'S COMPOUND ASARABACCA SNUFF,
For Nervous Headache, Weakness of Sight, Hay Fever, Catarrh, &c.
Retail 2/6 per Bottle.

REECE'S ARTIFICIAL HARROGATE SALT,
For Inflammatory Irritations, Piles, Constitutional Costiveness, &c., &c.
Retail 2/- and 3/6 per Bottle.

DR. DICK'S BENGAL ANTIBILIOUS PILLS,
For obstinate or Constitutional Constipation, Sluggishness of the Liver, loaded state of the Viscera, &c., &c.
Retail 2/9 per Box.

DR. SCUDAMORE'S CAJEPUT OPODEDLOC,
For Rheumatic or deep-seated Pains, Enlarged or Stiff Joints, Chilblains, &c.
Retail 2/6, 5/-, and 10/- per Bottle.

PROF. HERTZ' LOTION OF THE MALIC ACID,
For Removing and Preventing Accumulation of Tartar on the Teeth.
Retail 2/- per Bottle.

WRIGHT'S LINIMENT FOR THE EAR,
For Deafness occasioned by Cold, Hardened Wax, &c., &c.
2/- per Bottle.

**REECE'S PREPARED CHARCOAL OF THE
ARECA OR BETEL NUT,**
For Preserving and Cleaning the Teeth.
Retail 2/6 per Box.

REECE'S PERIODICAL ABSORBENT PADS
Are without exception the most convenient, cleanest, and cheapest articles yet introduced for the Comfort of Ladies.
Whilst Travelling Indispensable.
Belt and Support, in Boxes, 2/6 each.
Absorbent Antiseptic Pads, in Boxes, 2/- per dozen.

DR. REECE'S "MEDICAL GUIDE TO HEALTH."
Simplest and best work of the kind.

Published at 168 Piccadilly, London. Price 5/- each.

SEVEN PRIZE MEDALS AWARDED.

GOODALL'S HOUSEHOLD SPECIALITIES. YORKSHIRE RELISH.

THE MOST DELICIOUS SAUCE IN THE WORLD.

This cheap and excellent Sauce makes the plainest viands palatable, and the daintiest dishes more delicious. To Chops and Steaks, Fish, &c., it is incomparable. Sold by Grocers, Oilmen, Chemists, &c., in Bottles, 6d., 1s., and 2s. each.

CAUTION.—On each Yorkshire Relish Label is a Willow Pattern Plate, and name, GOODALL, BACKHOUSE & CO. No other is genuine.

Goodall's Baking Powder

THE BEST IN THE WORLD.

Makes delicious Puddings without Eggs, Pastry without Butter, and beautiful light Bread without Yeast. In 1d. Packets; 6d., 1s., 2s., and 5s. Tins.

Goodall's Quinine Wine

The best, cheapest, and most agreeable tonic yet introduced. The best remedy known for Indigestion, Loss of Appetite, General Debility, &c. Restores delicate individuals to health and vigour. In Bottles, 1s. 1½d. and 2s. 2d. each.

Goodall's Custard Powder

For making delicious Custards without Eggs, in less time and at half the price. Unparalleled for the purposes intended; will give the utmost satisfaction if the instructions given are implicitly followed. Sold in Boxes 6d. and 1s. each.

Goodall's Ginger Beer Powder

Makes Three Gallons of the Best Ginger Beer in the World for 3d. Is a delicious and invigorating beverage, possessing valuable medicinal properties. It is cooling in its nature, and a most wholesome beverage for both winter and summer. Sold in Packets, 3d. and 6d. each.

Goodall's Blanc Manger Powder

Is acknowledged by all to be the most convenient and economical preparation ever introduced, as, by its use, a most Rich and Delicious Blancmange may be produced in a few minutes at trifling cost, and may be filled of various flavours, i.e., Raspberry, Strawberry, Lemon, Almond, Vanilla. Sold in Packets, 6d. and 1s. each.

Goodall's Egg Powder

Acknowledged to be the only real substitute for eggs yet discovered. Its action on Cakes, Puddings, &c., &c., resembles that of the egg in every particular, enriching them in colour and flavour, rendering them most wholesome and nutritious. One penny packet will go as far as four eggs; and one sixpenny tin as far as twenty-eight. In 1d. Packets; 6d. and 1s. Tins.

SOLE MANUFACTURERS—
GOODALL, BACKHOUSE & CO., White Horse Street, Lee.
A Monthly Price List of Druggists' Sundries, Patent Medicines &c., can be had post free on application.

NOTICE TO CHEMISTS AND MANUFACTURERS.

DESIDERATUM MIXER

BRACHER'S PATENT

A REAL TIME, LABOUR, AND MONEY SAVER.

These Machines are admirably adapted for mixing all kinds of powders, heavy or light, in the shortest possible time, thereby superseding to a great extent the use of the pestle and mortar, supplying a long-felt want amongst Chemists and Druggists, Grocers, Confectioners, Drapers, Colour Merchants, and Manufacturers.

PRICE, WITH SIEVE AND CRUSHER COMPLETE, FROM £1.

CALCUTTA INTERNATIONAL EXHIBITION.

A GOLD MEDAL

has been Awarded to P. H. BRACHER & CO.,
77 High Street, Wincanton, for their Patent
DESIDERATUM MIXER, as per Cable Message
received 2nd Month 19, 1884.

TESTIMONIAL.

The Analytical Laboratory, 30 Hanover Street,

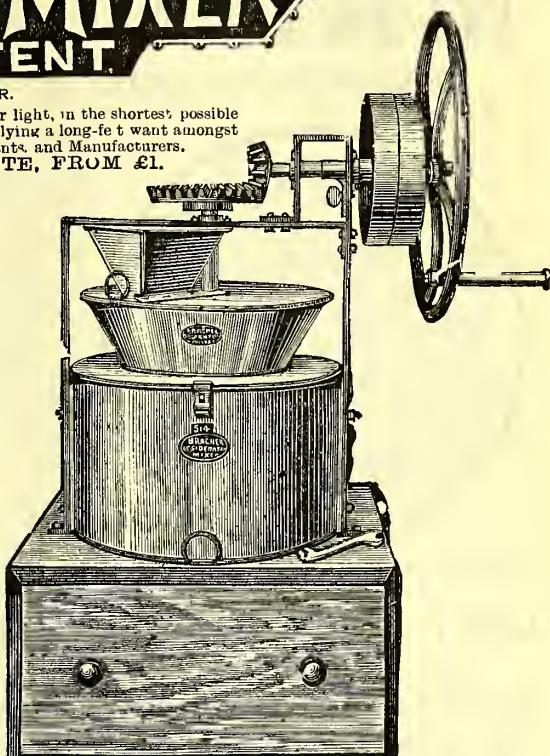
Edinburgh, March 7, 1884

Dear Sirs.—In replying to your letter of the 5th inst., allow me to say that I have much pleasure in testifying to the efficiency of the "Desideratum" Mixer. Being the inventor of a complicated compound, with which I had no end of trouble in properly and rapidly mixing, I must say I am indebted to your machine very greatly on the score of rapidity of operation. I usually mix about 1 cwt. at a time; the material is heavy and apt to clog, but your machine has reduced these inconveniences to nil.

With best wishes,

I am, yours very truly,

D. R. S. GALBRAITH.



Send for Illustrated Price List and full particulars, Post Free.
P. H. BRACHER & CO. (77 High Street), WINCANTON.

FRY'S MALTED COCOA

(PATENTED).

A Combination of FRY'S Pure COCOA EXTRACT with

ALLEN & HANBURY'S CONCENTRATED EXTRACT OF MALT.

J. S. FRY & SONS, BRISTOL AND LONDON.

First Class Medal, New Zealand, 1882; First Prize Medal, New Zealand, 1883; Cork, 1884.

PHILLIPS & SONS' DANDELION COFFEE.

Castle Square, SWANSEA; 34 Eastcheap, LONDON.

Note London Address, having no connection with a Retail Firm of same name. Established 1760.

LA BOURBOULE,

AN EMINENTLY RESTORATIVE MINERAL WATER.

Contains Chloride of Soda, Bicarbonates, Arsenics (28 millig. of arseniate of soda per litre).

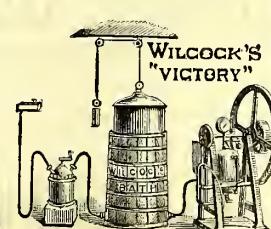
Dose: Half a glass to three glasses per day before or during meals.

A Regenerator for Weakly Children, and for Debility in Adults; also in Anæmia, Fatty Degeneration, Affections of the Skin and Respiratory Organs, and Intermittent Fevers. Employed as a drink and in gargles for Bronchitis and Sore Throat, and as a drink and lotion in Ringworm, Chaps, and Redness of the Skin.

Anglican Divine service on Sundays.

London: GALLAIS & CO., 27 Margaret Street, W. INGRAM & ROYLE, 119 Queen Victoria Street, E.C. WILLIAM BETTS & SONS, 22 Henrietta Street, Cavendish Square. Liverpool: EVANS, SONS & CO.

Manufactory:

BATH CITY BRASS FOUNDRY
AND IRONWORKS,
BECK STREET.N. G. WILCOCKS,
BATH, SOMERSET,
ENGLAND.

CONROY'S MALT COFFEE.

GOLD MEDAL AWARDED AT CALCUTTA EXHIBITION, MARCH, 1884.



Conroy's Malt Coffee has received the following Certificates amongst many others.

"Undoubtedly a nourishing and health producing article of diet." — *Edward Davies, F.C.S., F.I.C., &c., Liverpool.*

"Most beneficial in cases of atonic indigestion." — *E. Adam, M.R.C.S., England.*

"Genuine Coffee gives me indigestion. Your Malt Coffee is entirely free from this objection." — *S. Whitaker, Waterfoot, near Manchester.*

"Disserters who could never take the ordinary coffee or date coffee can take the Malt Coffee, and with the most beneficial effects." — *D. Lloyd, Bangor.*

"I have frequently recommended your Malt Coffee in cases of weak digestion, invariably with satisfactory results." — *W. Bell, Senior Surgeon to the Convalescent Institution, New Brighton.*

"A most excellent combination." — *A. W. Postum, F.C.S., London.*

"Very palatable and marvellously easy of digestion." — *Society, October 21, 1882.*

"It can in many cases be readily taken when ordinary coffee disagrees." — *British Medical Journal, July 29, 1882.*

"Refreshing, and at the same time nutritious, spirit-infusing, yet absolutely non-in toxicating, palatable and wholesome to an eminent degree." — *The Colonies and India, 29th Sept., 1882.*

"Both pleasing to drink, and aids greatly to digestion." — *The Anti-Adulteration Review, October, 1882.*

"The combination ought, therefore, to improve the health of those who consume it." — *Globe.*

"Malt Coffee, the new temperance beverage, would seem to make the nearest approach to what is required. Pure malt is in its own way as beneficial as pure coffee, being especially strengthening and nutritious." — *Morning Post.*

IT IS MADE IN THE SAME WAY AS ORDINARY COFFEE.

Pamphlets containing Testimonials from Eminent Scientific, Medical, and other Gentlemen of the highest position, may be had Free for Gratuitous Distribution.

In cases of 56 lbs. each, put up in 1-lb., $\frac{1}{2}$ -lb., and $\frac{1}{4}$ -lb. tins. Each Tin is protected by an Excise Stamp under the Regulations of the new Inland Revenue Bill of August 3, 1882.

PREPARED ONLY AT THE

MALT COFFEE WORKS, 34 FLEET STREET, LIVERPOOL.

SOLE PROPRIETORS—

EVANS, SONS & CO., 56 Hanover Street, LIVERPOOL.
EVANS, LESCHER & WEBB, 60 Bartholomew Close, LONDON, E.C.
QUOTATIONS ON APPLICATION.

CHEMISTS' TEA AGENCY.

WALKER & DALRYMPLE'S

BROKEN-LEAF TEA, 1s. 8d. per lb.

A MONEY-SAVING TEA. ABSOLUTELY PURE.

The small leaf from some of the finest India and China Teas. Produces Tea in the cup, stronger, richer, and cheaper than most whole-leaf Teas. Agents appointed, where unrepresented, throughout the United Kingdom.

WALKER & DALRYMPLE'S

INTERMEDIATE TEA, 2s. per lb.

BEST at the PRICE EVER SOLD. Great strength and a most useful Tea where there is a large consumption. Recommended to all who wish to SAVE in their Tea. Agents appointed, where unrepresented, throughout the United Kingdom.

WALKER & DALRYMPLE'S TEAS.—
AGENTS APPOINTED, where unrepresented, throughout the United Kingdom.

Prospectus and Samples Free on Application.

Warehouses, 154, 155, 156 and 160 WHITECHAPEL ROAD, and BRADY STREET, LONDON.

P.O.O. payable at head office. Bankers, the National Provincial Bank England.

KANGRA VALLEY Indian Tea Growers' Association, 7 NEW COVENTRY STREET, LEICESTER SQUARE, W.

THE distinctive feature of the Business of this Association of Planters is, that the Tea is delivered to consumers in the original One lb. tin foil lined parcels in which it is packed on the Plantations.

Chemist and Druggist.—"A new agency for tea is offered to chemists and druggists by the Kangra Valley Indian Tea Growers' Association," and the fact that the well-known firm of Barclay & Sons are members of this association, in introducing their tea to the public, is a guarantee that the business is of the most serious character, than some of the packet-tea agencies have proved. The Kangra tea plantations lie on the slopes of the North-West Himalayas, and this association appear to take great care in the selection of their leaves, and certainly offer a tea of fine quality. Their teas are packed in pound packets at the plantations, and in that form are offered for sale here in three different qualities."

These Teas, retailing respectively at 4/-, 3/-, and 2/-, can be purchased in an quantity, either direct from the Store, 7 New Coventry Street, or from Messrs. Barclay & Sons, 95 Farringdon Street, Agents to the Association.

Special Terms granted to all Chemists and Druggists, to whom the Teas, on account of their absolute purity, are particularly recommended.

CLARK'S COFFEE EXTRACT.

The Best and Cheapest. No Waste, no Chicory. Saving time and money.
MADE IN AN INSTANT.

CLARK'S COFFEE AND CHICORY EXTRACT.

A marvel of quality and cheapness. No waste. Made in an instant.

CLARK'S EXTRACTS are in bottles to retail at 6d., 1s., and 2s., and should be sold by all Chemists, &c., throughout the world.

Clark's Extracts are made on a new and scientific principle, whereby the aroma of fresh coffee is retained unimpaired. They will keep in any climate, warm or cold, are very portable and highly concentrated, one teaspoonful of Extract making a cup of good coffee. Clark's Extracts are acknowledged by eminent and practicable judges the best in the market.

Wholesale of the usual Houses and of the Manufacturers,

E. CLARK & CO.,

OPTIMUS COFFEE WORKS, QUEEN'S ROAD, BATTERSEA, LONDON, S.W.

THE GENUINE PREPARATION OF "SWEET" ESSENCE OF RENNET.

McMaster, Hodgson & Co., Dublin,
ORIGINAL MANUFACTURERS AND PROPRIETORS.

THE FOLLOWING IS A CERTIFIED COPY OF REGISTRATION, 1870:—

Time of making the Entry.	Title of Book.	Name of Publisher, and Place of Publication.	Name and Place of Abode of the Proprietor of the Copyright.	Date of First Publication.
June 30, 1870.	WARREN'S SWEET ESSENCE OF RENNET, for making Curds and Whey—Label.	M'MASTER, HODGSON & CO., 121 & 122 Capel Street, Dublin.	M'MASTER, HODGSON & CO., 121 & 122 Capel Street, Dublin.	June 16, 1870.

I hereby certify that the above written is a true Copy of an Entry in the Book of Registry of Copyrights and Assignments kept at the Hall of the STATIONERS' COMPANY, pursuant to Act of Parliament, 5 and 6 Vict., c. 45.

Witness my hand, this 15th day of June, 1875.

(Signed) JOS. GREENHILL,

Registering Officer appointed by the Stationers' Company.

The recommendations of this Essence are the entire absence of Salt and Mineral Acids (which are highly objectionable), and is one of the most unique and elegant preparations yet introduced for producing curds and whey; rather sweet in taste, and warranted to remain unimpaired in any climate for any length of time.

As there are numerous counterfeits, be careful to order McMaster, Hodgson & Co.'s Genuine "Sweet" Essence of Rennet.

McMASTER, HODGSON & CO.'S

REOWNED "IMPROVED" Fluid Extract of ANNATTO,

Is guaranteed to be prepared from the pure colouring ingredients of the Annatto plant. It is perfectly soluble, always producing the same uniformity of colour; does not FADE, nor FLAVOUR Butter or Cheese.

It has been Awarded FIRST PRIZE at the National Agricultural Show, Victoria, Melbourne.

Messrs. W. CLARK & SON, Bristol, write:—"We have introduced your improved Annatto to many of our large Dairies in the Cheddar District, and we are pleased to say it has given great satisfaction."

LONDON AGENTS:—Messrs. Grosse & Blackwell, Edwards & Son, Hovenden & Son, Lynch & Co., Barclay & Son.

LIVERPOOL AGENTS:—Messrs. Evans, Sons & Co., and Ayrton & Saunders.

McMASTER, HODGSON & CO., 121 & 122 CAPEL STREET, DUBLIN.



R. J. FULLWOOD & CO.,
The Original Inventors of the Prime, Rich, Golden-colour Cake and Fluid Extract of

ANNATTO.

TO BE HAD GENUINE ONLY FROM THE STEAM ANNATTO WORKS,

31 BEVENDEN STREET (late 24 Somerset Place), HOXTON, LONDON.—Established 1785.

SCOTT'S MIDLOTHIAN OAT FLOUR

IS UNEQUALLED AS THE MOST WHOLESOME AND NUTRITIOUS FOOD FOR INFANTS AND INVALIDS.

SCOTT'S MIDLOTHIAN OAT FLOUR, which is made entirely from the finest quality of Midlothian Oats, is so purified from the Fibrous Integument, that it has concentrated in it 80 per cent, more flesh and bone forming properties than the finest Oat Meal, which is acknowledged to be the most nutritious of all Cereals. Unlike many preparations sold for Infants' Food, which contain a mixture of Cereals that would require different degrees of boiling to become properly assimilated, SCOTT'S MIDLOTHIAN OAT FLOUR is easily prepared, most satisfying and invaluable in promoting a healthy regularity of system when given to Infants, as it can be used through an ordinary Feeding Bottle by Infants of Two weeks old. For Invalids and Adults, SCOTT'S MIDLOTHIAN OAT FLOUR is unequalled as a satisfying, nourishing, and easily digested food. Highly Recommended and used by Eminent Physicians. Used in the leading Hydropathic Establishments. Sold by GROCERS and CHEMISTS in Tins of various sizes.

Sole Makers—A. & R. SCOTT, MILLERS, GLASGOW.

Is most useful and economical to Hotel Keepers, Clubs, Restaurants, and the General Public.

It is indispensable with all kinds of made dishes, Soups, Gravies, Cold Meats, Salads, Cheese, &c., and its application to a Chop or Steak makes the repast a perfect luxury. With Fish it finds no rival. It is a perfect antiseptic and dietetic, and will be found beneficial to those suffering from want of appetite or weak digestion.

The Clarence Sauce differs from others in one grand feature, no animal or deleterious matter being used in its production. Its ingredients are composed of the finest vegetable productions selected from all parts of the world.

The celebrated Chef Francatelli averred that he never sent a made dish to table without this Sauce. SOLE PROPRIETORS:

CLARENCE & CO.,

10 Dean Street, Holborn, LONDON, ENGLAND.

The Sauce is made in two strengths, "HOT" and "MILD."

Price 1s. per Small Bottle and 2s. per Large Bottle.

WHOLESALE TERMS AND SAMPLES ON APPLICATION. SPECIAL RATES TO SHIPPERS.

THE
CLARENCE
TRADE
MARK.
SAUCE

Hunyadi János

CAUTION.—Circumstances which have come to the knowledge of Andreas Saxlehner, Buda Pest, Sole Proprietor of the Hunyadi János Spring, compel him to WARN the British Public against SPURIOUS IMITATIONS. To secure genuineness, purchasers should see that every bottle has on the LABEL the name of "THE APOLLINARIS COMPANY (LIMITED), London."

MAIGNEN'S PATENT "FILTRE RAPIDE"

GOLD MEDAL AND
TWO DIPLOMAS OF HONOUR
INTERNATIONAL FISHERIES EXHIBITION.



Fig. 1. "Bijou D."

The filtering medium is easily removed, and a new charge put in its place at a trifling expense.

For Cottage House, Hall, Workshop, Laboratory, and Office.



Fig. 4. Charging the filter.

PRICES (in London, Package and Carriage extra).

"BIJOU D"—White Stoneware (black decoration).

No. of Filter.	Contents.	Filtering per hour.	Price.
" Bijou" No. 1*	1 gallon	1 g. lton	£1 5 0
" No. 2..."	2 "	2 "	2 0 0
" No. 3..."	3 "	3 "	3 0 0

* "Bijou No 1d," with hand-painted design, crystal or stoneware, from £2 10s.

Particulars of Larger Filters, suitable for attaching to Cisterns and for Waterworks, on application to

P. A. MAIGNEN, Pattee, 22 & 23 GREAT TOWER ST., LONDON, E.C.
Sole Contractor to the International Health Exhibition, Author of "Water, Preventable Disease, and Filtration."

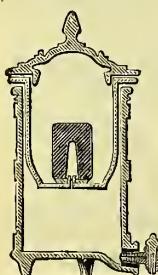
THE UNIVERSAL HOUSE FILTER.

LONDON'S PATENT RAPID WATER FILTER is Economical, Cleanly, Reliable, and cannot get out of order. It purifies a quart of water in two minutes by ascension through pure Animal Charcoal. For illustrated description, see "Chemist and Druggist," July 15, 1884, page 259.

Retail Price, 6s. 6d. Liberal Trade Discount.

THE UNIVERSAL FILTER CO., 35 QUEEN VICTORIA ST., LONDON, E.C.

DOULTON & CO., LAMBETH, LONDON, S.E.



DOULTON'S MANGANOUS CARBON FILTERS (Dr. Bernays's Patent).

The Combination prepared under this Patent gives to the Charcoal its highest value as a

FILTERING MEDIUM.

The Filter is made in four movable parts—the body, the lining, the Manganous Carbon block, and the cover. By this means every portion of the filter may be

KEPT PERFECTLY CLEAN, and the Manganous Carbon block may be changed as often as necessary WITHOUT PARTING WITH THE FILTER.

DOULTON & CO. also manufacture Boudoir or Table Filters, Pocket and Syphon Filters for Tourists' use, Manganous Carbon Self-Acting Cistern Filters, Refrigerator Filters, High Pressure Filters for manufacturing purposes, &c. May be had of all Dealers.—DOULTON & CO., Lambeth, London, S.E.

DOULTON'S IMPROVED GRANULAR CHARCOAL FILTER.

In addition to the b.d. of Granular prepared Charcoal, these Filters are fitted with a movable block of MANGANOUS CARBON in place of sponge. This arrangement, whilst a sponge as a screen for suspended matters, gives a double action to the power of the FILTERING MEDIA.

Any Description of Filter Refitted at Moderate Charge.



BETTS & CO., LIMITED

(ESTABLISHED IN 1840),
SOLE MAKERS IN GREAT BRITAIN OF

METALLIC CAPSULES,

AND PATENTEES OF THE
COLOURED SIDE MARK, LABEL, AND OTHER SPECIALITY CAPSULES

(For the Prevention of Fraud and Refilling of Old Labelled Bottles), as supplied to BASS & Co., and the leading Brewers and Bottlers of Wines and Spirits throughout Europe.

PLAIN ORDINARY CAPSULES,

For Small Phials, 2s. 6d. and upwards per 1,000, according to size, style, design, and quantity.

SPECIAL CONTRACTS FOR CONTINUOUS DEALING.

Manufacturers of Pure English-made Bottling and Package Tinfoil, from 1s. per lb. and upwards; Mixed Foil (Foreign Quality), from 6d. per lb. (according to gauge); Patent Barrel Packages and Snuff Canisters, &c.

MANUFACTORIES:—LONDON: Chief Office and Factories, Wharf Road, City Road, E.C.; and Holloway and Batavia Mills, Holloway, N.W.—BIRMINGHAM: Moor Green Fields.—PARIS: Office, 4 Rue Mogador, Chaussée D'Antin.—BORDEAUX: Office, 3 Quai de Chartrons; Factory, Monrépos, Floirac.

PATENTEES OF HYDRAULIC & MECHANICAL PRESSURE CAPSULING MACHINES, ESPECIALLY ADAPTED FOR CHEMISTS' COUNTERS.

Largely in use by the Trade, and efficiency guaranteed for all sizes of Bottles, at Royalties from 5s. to £2 2s. per annum.

GIBSON'S DELECTABLE JUJUBES, VOICE JUJUBES, AND GLYCERINE PASTILLES

Pnt up in 4-lb. Decorated Tins with Glass Lids, TINS FREE, are now being inquired for by buyers from all parts of the world. They are not surpassed in quality by any maker, and give entire satisfaction.

MEDICATED and HIGH-CLASS LOZENGES, of every kind.
Sent out in 2-lb. or 4lb. Bottles, Bottles Free; or in Tins, from 10 lb. upwards.

LIME JUICE TABLETS. PURE MALT TABLETS
ACID DROPS, AND BEST QUALITY BOILED SUGARS OF EVERY KIND.

GIBSON'S ORIGINAL CHLORODYNE LOZENGES.

PENNY SUGAR WORM CAKES, suitable for either children or adults. Have an immense sale, keep in any climate, and please everybody. Manufactured by

ROBERT GIBSON, Carlton Works, Hulme, Manchester, and 1 Australian Avenue, London.

Price Lists sent on application. Our Goods can be bought through any Wholesale or Export House in London. Indents should be marked "Gibson's."

RANDALL'S BLACK CURRANT LOZENGES.

Net Cash. To Acct.

	s.	d.	s.	d.
Plain Black Currant, old square ..	2	6	2	8
" rough oval ..	2	6	2	8
Black Currant and Ipecacuanha ..	2	6	2	8
Black Currant and Tannin.. ..	3	0	3	3
Black Currant Voice (warm astringent) ..	3	0	3	3
Black Currant Cough Lozenges * ..	3	6	3	10

(* Ipecac. and Morph. strength as "B. P.")

In Bottles, 1 lb., 2 lbs., 4 lbs., and 7 lbs. For Exportation, in soldered tins, of any size. From EDWARDS, London; through any Wholesale House; and from the Manufacturers,

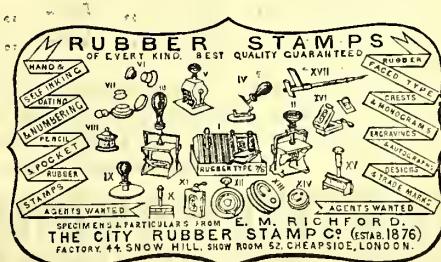
RANDALL & SON, Southampton,

Who will forward Samples by post on application.
Also, BROWN COUGH LOZENGES, 2s., 2s. 2d.; 7 lbs. stamped with name free,

and MUSK LOZENGES (Special), 2s. 6d., 2s. 8d.

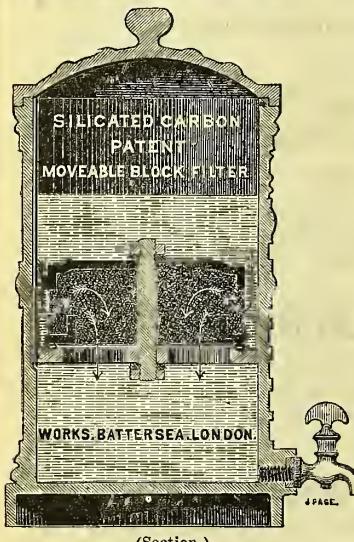
N.B.—Medical Lozenges of every kind,

Including those of the Pharmacopoeia of the Hospital for Diseases of the Throat, London.



SILICATED CARBON PATENT MOVABLE-BLOCK FILTERS.

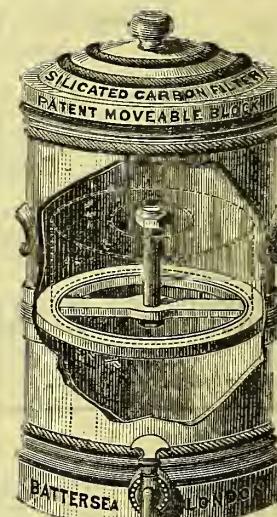
These Filters are constructed on Scientific principles, and can be renewed or repaired by the user without returning to the maker. They possess all the advantages of those with fixed filtering mediums, while the simple removal of the Silicated Carbon Block leaves the *whole* of the interior of the Filter open for inspection and cleansing. The working parts are stoneware, and corrosion is impossible.



NO LOOSE PAN OR INNER VESSEL
TO CAUSE BREAKAGE.

The block being non-porous on the top and edges, an *upward* direction is given to the water, which thus passes through a greater thickness of the Silicated Carbon,

as shown by the arrows in drawing.



The Silicated Carbon Block can be instantly removed, leaving the whole of the interior of the Filter *open* for inspection and cleansing.

To Cleanse the block, plunge it into boiling water, and well scrub it with a hard brush.

Extra blocks can be supplied with each Filter. All parts being interchangeable can be replaced in case of accidents.

This Patent can be adapted to all patterns manufactured by the SILICATED CARBON FILTER Co. *without increased charge*. In ordering please state "with patent movable block."

Domestic Filters (as above), in Cream-coloured Stoneware, with Plated Taps and Patent Movable Blocks:-

No. 27. O. $\frac{1}{2}$ gal. 10/- each.	D. 6 gals. 42/- each.
A. 1 „ 14/- „	E. 8 „ 52/- „
B. 2 „ 21/- „	F. 12 „ 70/- „
C. 4 „ 32/- „	

Dining Room Filters, in Marbled China, with Plated Taps and Patent Movable Blocks:-

No. 22. A. 2 gals. 35/- each.
B. 5 „ 80/- „

Refrigerative Terra Cotta do., do.:—

No. 25. 2 gals. 31/6 each.

All makes of Filters can be refitted on this principle, 1 gal. 8/6, 2 gals. 10/-, 4 gals. 12/- each. Larger sizes in proportion.

SILICATED CARBON FILTER COMPANY. WORKS: BATTERSEA, LONDON.

SILICATED CARBON FILTERS.

SYPHON FILTERS FOR TRAVELLERS.

By means of these Filters pure and perfectly wholesome water may be drunk from any pond or stream by simply immersing the Filter therein and drawing the water through the tube by suction.



No. 20.

used as a Syphon by placing it in a vessel of water, then drawing the water by the mouth, and allowing the flexible tube to hang over the side below the Filter. When once set in operation their action is continuous.

- Each of these portable Filters may be
A.—Pocket Filter, 2½ inches diameter, in porcelain, with glass mouthpiece, in decorated metal-box 2 6
B.—Ditto, 3½ inches diameter, in best stoneware 5 0
C.—Emigrant's, 5 inches diameter, with silver-plated tap 12 0
G.—Pocket Filter, for carrying over shoulder, as supplied to the Forces in Abyssinia and Zululand, and to the Ashantee and Egyptian Expeditions 8 6
H.—Ditto, nickel-plated, designed by Major Fraser, R.E., and specially recommended by the Horse Guards for Officers' kits 5 0

GREAT IMPROVEMENT IN BUTTER COLOURING.

BUNSEN'S ANNATTOINE FOR BUTTER COLOURING.

This Preparation, which is **PURELY VEGETABLE**, will be found to be much superior to any other Butter Colouring hitherto invented. Being an oily solution, it more readily combines with the milk fat, and consequently gives a more uniform tint; while at the same time it gives that pure, rich golden colour to Butter and Cheese so much appreciated. In Bottles, 1s. and 2s. 6d. each. BUNSEN'S ANNATTOINE contains within itself all the requisites of a good Butter Colour. It is free from smell; tasteless; perfect in shade of colour; and the Proprietors believe that a shilling bottle will colour a greater weight of Butter or Cheese than any other shilling's-worth in the market.

Chemists should order a few Bottles as sample from their Wholesale House.

MANUFACTURED ONLY BY

BUNSEN, BENSON & CO., 80 Fann Street, Barbican, LONDON, E.C.

ORANGE-QUININE TONIC-WINE.

As originally introduced by us, containing 1 grain of quinine to the ounce.

To meet the requirements of the trade, we have reduced the prices as below. The size of the bottles and the quality are as hitherto supplied:—

In bottles 6 to gallon, to retail at 2s. each, at 19s. per doz. In small bottles, to retail at 1s each, at 9s. per doz. Less 5 per cent. discount. Carriage paid to any part of England on quantities of 3 dozen large or 6 dozen small bottles.

HIRST, BROOKE & HIRST, LEEDS.

ORANGE WINE.

Most suitable for making Quinine Wine because of its containing the least percentage of tannic acid possible, and being in the most brilliant condition. In casks of not less 8 gallons, 4s. per gallon, carriage paid. Extra superior quality (finest made), 4s. 6d. per gallon, carriage paid.

SAMPLES FREE AND CARRIAGE PAID UPON APPLICATION TO

LAMB & WATT, 46 and 48 ST. ANNE STREET, LIVERPOOL.

R. H. HALLETT & CO.
MANUFACTURING ELECTRICIANS
AND
WHOLESALE ELECTRICIANS' SUNDRIESMEN,
LEICESTER.

Manufacturers of Electric Bells, Batteries, Coils, Medical Batteries, Magneto-Electric Machines, Electro Motors, Arc and Incandescent Lamps, Vacuum Tubes, &c., &c.

Electric Bells, from 39/- per dozen; Terminals, from 1/6 per dozen; Incandescent Lamps, from 15/- per dozen; Magneto Machines, from 10/-; Bottle Batteries, from 2/9; Bell Battery, Push, and Wire, from 7/6. Send for our New Illustrated Price Lists of Optical and Electrical Goods, Scientific Novelties, &c., Post Free on application.

CHEAPEST HOUSE IN ENGLAND FOR THE ABOVE.

S PONG'S (Registered)
BEDFORDSHIRE
PIG POWDERS

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Specimens on receipt of halfpenny stamp. Proof if desired. Cash must accompany order. They are too cheap to book.
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As noticed in the *Lancet*, *Chemist and Druggist, &c.*, can be obtained only of the Inventors and Makers; cannot get out of order, and are therefore specially suited for Export.

PLAIN CLINICAL THERMOMETERS (FAHRENHEIT OR CENTIGRADE SCALE).

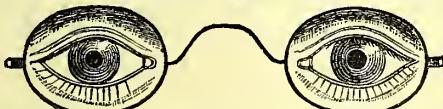
4 or 6 in., in case, 3/6 each. 4 in. or 6 in. ditto, contracted in Ebony Case, 4/- each. If with Magnified Bore, 6/- each.

DARTON'S IMPROVED DITTO, IMPERISHABLE INDEX, 4 or 5 in., 5/- each. Ditto. Enlarged and Magnified Bore, with lens front, 7/- each. One Bent and One Straight 6-inch Clinical Thermometer, in Morocco Snap Case, 10/6 the set. Kew Certificates, 1/3 each extra.

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Iron Frames, Convex Glasses, Assorted Sights.

Common, 18/- per gross. Better ditto, 21/- and 30/- per gross.
Cases for ditto, 12/- per gross.

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Ditto, fitted with Neutral Tint Glasses, 12/- per dozen.

Large Eye, Best Quality Frames, and Best Neutral Tint Glasses, 30/- dozen.
Ditto Light Ball-Joint Frames, 18/- per dozen.

Ditto Light Straw Frames, Grooved Glasses, 24/- per dozen.

Ditto Extra Light Frames, Best White Glasses, 36/- per dozen.

Pantoscopic ditto, with Polished Edge Glasses, 36/- per dozen.

Steel Frames, with Convex Pebbles, 27/- per dozen.

Ditto Better Quality Frames, 42/- per dozen.

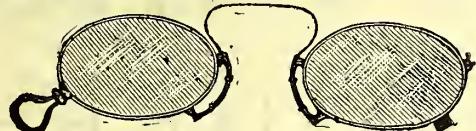
Ditto Best Pebbles, 48/- per dozen.

Ditto Extra Light Frames and Best Pebbles, 60/- per dozen.

Globular Spectacles, Neutral Tint, Domed Glasses, 7/6 per dozen.

Ditto Stout English, 30/- per dozen. [dozen.]

D EYE SPECTACLES, Neutral Tint Glasses, Best Quality, 48/- per



Common Steel Folders, 4/6 per dozen. Steel, 6/- and 7/6 per dozen.

Ditto Grooved Glasses, Light Frame, 15/6 per dozen.

Ditto Nickel Plated, Grooved, Extra Light, 24/- per dozen.

Ditto Best Fancy Handled, 42/- per dozen.

New Illustrated Price List of Spectacles and Folders, with Trade Terms, on application.

D EYE SPECTACLES—continued.

Nickel Plated Folders, Coloured Glass, 36/- per dozen.

Tortoiseshell ditto, Convex Glasses, 30/- per dozen.

New Pattern Gold Cased Japanese Folders, will wear like gold, 60/- per [dozen.]

FRAMELESS FOLDERS from 7/6 per dozen.

Nickel Plated Japanese Folders, with Domed Glasses Best Finish, Blue and Neutral Tint, 30/- per dozen.

For the convenience of Customers who have not yet started the Sale of Spectacles, we fit up Show Cases, containing an assortment of Spectacles, complete with Sight Tester and Instructions, as follows:—



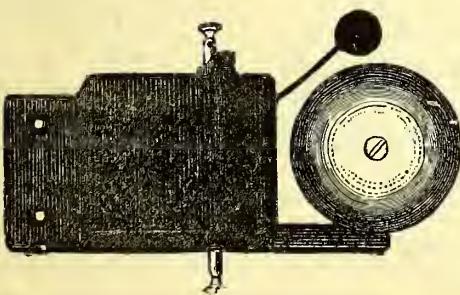
Our £2 2s. SHOW CASE for the Counter, in Polished Mahogany, contains 4 dozen Spectacles, Sight Tester, and Instructions for suiting sight.

Our £3 3s. CASE contains, in addition, 2 dozen Folders and 2 dozen Cases.

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Ditto, with assortment of Best Pebble Spectacles and Folders, £2 1s.

E L E C T R I C B E L L S .



NEW FORM METAL FRAME ELECTRIC BELL, with 2½ Plated Dome, 4/6 each. Complete, with Large Battery, Push Piece and Wire, and Instructions for Fixing, 10/6. If with best quality bell, 14/6.

INVALIDS' ELECTRIC BELL SET,

with Bell and Battery in Polished Case, 30 feet of Flexible Line Wire, and Pear Push, 21/- each. Ditto in polished Mahogany Case, with 3-in. best bell, 27/-.

Estimates given for Fitting up Houses or Shops.

MAGNETO ELECTRIC MACHINES,

in Pine Case, 10/6; ditto in Mahogany, 16/6; ditto, best quality, with plated handles. &c., 22/6.

INCANDESCENT LAMPS

for the Electric Light, 4/- each. Ditto, with 3 Cell-Battery complete, 21/- each.

NEW ILLUSTRATED PRICE LIST OF ELECTRIC BELLS AND FITTINGS SENT POST FREE ON APPLICATION.

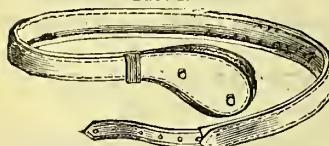


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Six doors from Hanway Street.
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FIRST PRIZE (SILVER MEDAL) FOR TRUSSES AWARDED BY THE
WORSHIPFUL COMPANY OF CUTLERS OF THE CITY OF LONDON, MAY, 1879.

FIG. 1.

**TRUSSES.**

Circular Trusses, single, as Fig. 1, basil and chamois or basil and moleskin	per doz. £1 1 0
Circular Trusses, double, basil and chamois or basil and moleskin	per doz. 1 14 0
Salmon & Ody's Expired Patent, single, Fig. 4	2 14 0
" " " with extending backs	" 1 10 0
Salmon & Ody's Expired Patent, double, Fig. 5	3 0 0
Moc-Main Lever, single	each 0 8 0
" " " double	0 13 6
Coles's Expired Patent, single	0 6 0
" " " double	0 12 0
Scrotal Trusses, basil and chamois or moleskin, single	0 4 0
" " " double	0 7 0

FIG. 4.

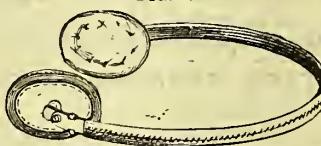
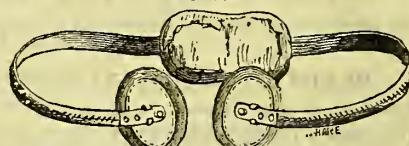


FIG. 5.

**TRUSSES.**

No.	Silk Oxonian, superior quality, bands of buff jean, with drawing-strings	per doz. £1 4 0		
6.	Silk Bags, to button on, with tape under-straps	" 1 1 0		
7.	" " " under-straps to button	" 1 4 0		
ELASTIC STOCKINGS, KNEE-CAPS, ETC.				
Manufactured expressly for Export, and warranted to stand a hot climate better than any others in the Market.				
	Silk.	Super. Silk.	Cotton.	Super. Cotton.
Stockings	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Knee-caps	0 10 0	0 15 0	0 8 0	0 7 0
Calf-pieces	0 6 6	0 10 8	0 4 0	0 5 6
Socks	0 7 6	0 10 0	0 4 6	0 6 0
Wristbands	0 5 6	0 8 6	0 3 10	0 5 0
Knee Stockings	0 2 3	—	0 1 8	0 2 0
Belts, to draw on	0 16 0	1 5 0	0 9 2	0 12 1
each	0 16 6	—	—	0 12 0

SUSPENSORY BANDAGES.

No.	per doz. £0 8 0
1. Cotton Bags and tape under-straps	0 10 0
2. Cotton Oxonian, with drawing-strings	0 10 0
3. Silk Bags and tape under-straps	1 1 0
4. Silk Oxonian, with drawing-strings	0 18 0
5. Silk Oxonian Bags bound with elastic	1 4 0

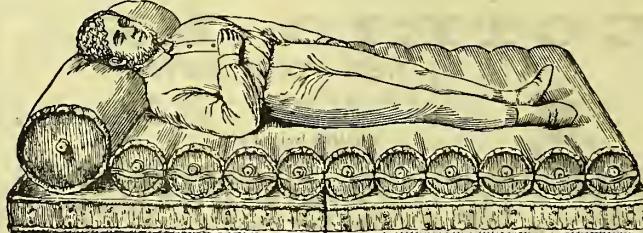
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Prize Medals, Sanitary Congress, 1878; Industrial Exhibition, York, 1879; Certificate of Honour, Sanitary Congress, 1879; Brighton, 1881; International, 1881; Kensington, 1882.

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OVER
ORDINARY WATER
OR
AIR BEDS ARE AS
FOLLOWS :—

- In cost it is less expensive.
- It is warm and light, and well adapted for a camp or field-bed, being waterproof.
- It is quickly filled and easily adjusted.
- It admits of ventilation in the space between the tubes.
- It can be regulated so as to relieve pressure from any part required.
- By the addition of tubes it will raise one part of the body higher than the rest.
- By the temporary removal of one or two tubes it affords room for the introduction of bed-pan.
- It can be inclined to any angle (even when filled with water) to suit the condition of the patient.
- It is free from noise and surging, so disagreeable to the invalid on changing his position on a water-bed.
- In case of injury to a tube it can be withdrawn, and a fresh one substituted at a trifling cost, and without loss of time; whereas the ordinary water-bed if injured in any part (from being in one compartment) is rendered useless.
- In the treatment of insane or paralysed invalids who have no control over their evacuations, they cannot lie in a pool of wet, the fluid passing away between the tubes.

THE VERDICT.

THE LANCET reports of the Kepler Extract of Malt: "*The best known, and in this country the largest used Extract of Malt.* It is as distinct an advance in therapeutics as was the introduction of cod-liver oil."

Professor Yandall, M.D., of Louisville, U.S.A., reports of it:—"The Kepler Extract of Malt is the best, and has the finest flavour of any I have seen; it is a very valuable preparation."

"The Medical Times and Gazette" says of it:—"The Kepler Extract of Malt is deserving special commendation. It is, we venture to say, by far the best we have seen. *The one most widely known and most largely used in this country.*"

"The Medical Press and Circular," in reporting upon the subject, says:—"The Kepler Extract of Malt is reliable, and is manufactured in such a careful manner as to insure the preservation of its valuable constituents. It is very delicious to the taste, and has been found by analysis to be exceedingly rich in diastase, and consequently is a valuable digestive agent.

"The Kepler Malt, combined with cod-liver oil, is the most palatable and easily digested of any form we have yet seen for administering cod-liver oil."

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FIFTEENTH EDITION.

MATERIA MEDICA EXAMINATIONS.**BRITISH PHARMACOPÆIA, 1867.**

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See "CHEMIST AND DRUGGIST," December 15th, 1874.

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OR PANCREATISED (PREDIGESTED) FAT,

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The special advantage of Pancreatic Emulsion is that it provides the NATURAL STABLE SOLID FATS OF FOOD, predigested by the action of the Pancreatic secretion, so that they can be taken without the least disturbance of the digestive functions. As it provides solid fat, it is well to make it alternate with a liquid fat, like Cod Liver Oil, even where the latter agrees; and in many cases where Cod Liver Oil disagrees it may be permanently substituted with the greatest advantage, or it may be taken with the Oil, the assimilation of which it actively promotes.

The Emulsion is of the consistence of Devonshire Cream, easily miscible with fluids, and quite unobjectionable in taste. It may be given in milk or water, and with the addition of a little wine or brandy if desired.

In Bottles, 2s. 6d., 4s. 6d., and 8s.

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THE CHEMIST AND DRUGGIST is supplied regularly by arrangement with their respective Councils to all members of the following societies:—

The Pharmaceutical Society of Victoria.

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The Pharmaceutical Society of New Zealand.

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The Pharmaceutical Council did not assemble this month. It is to be hoped that in the course of this autumn they will set to work seriously to prepare a new Bill to amend the Pharmacy Act. A short, reasonable Bill, free from the superfluities of the last attempt, but dealing with the sale of poisons and of poisonous patent medicines, would likely enough go through Parliament smartly, and it is probable that no one would welcome such an independent solution of their difficulty more than the Privy Council themselves. Anyway, to wait for the leisure of the Government is too Micawber-like a proceeding to remain the distinguishing characteristic of the policy of the able and enterprising gentleman who now guides the deliberations of the Pharmaceutical Council.

The American Pharmaceutical Association assembled in its thirty-second annual meeting on August 26 in the city of Milwaukee, Wisconsin. Out of a membership of about 1,500 rather more than a hundred were present, and one of the pharmaceutical periodicals states that 99 per cent. wanted social entertainment, and wanted it good, and at reasonable cost. President Thompson, in his address, touched trade questions with a bold hand. He compared the druggist's heterogeneous stock of a few years ago with the present state of business. One by one most of the things foreign to medicine had been swept away by the strong current of low prices. The number of drug stores was too large, and the changed conditions would inevitably extinguish large numbers. This result would be the same whether druggists tried to compete at low prices or abandoned all but the technical part of their business, while the latter course would have the advantage as tending to elevate pharmacy. The address referred also to adulteration and the general business of the Association. The place of meeting proposed by the Committee for next year was New Orleans, but there were amendments in favour of Pittsburg, Montreal, and Newport, R.I., and the final choice of the Association fell on Pittsburg, for the second Tuesday of September, 1885.

**

It had been suggested that the Association should go to California, but it was found that it would cost members living in the East about 75*l.* to get there and back. Papers were read on rhubarb, the U.S.P. process for assaying opium, hydrastine, fungoid deposits in dilute sulphuric acid, standard dimensions of percolators, potassium bromide, simultaneous fractional percolation, and others. The salary of the permanent secretary was increased, at the suggestion of the President, to \$750. The Treasurer reported receipts, \$10,500; expenditure, \$4,258. Drs. Prescott, Rice, and Hoffman were appointed a committee to report at next annual meeting a feasible plan to compel patent medicine manufacturers to state formulæ of their preparations. This report will be awaited with great interest. The social entertainment formed a prominent part of the programme on all four days of the meeting, and closed with a steamboat excursion on Lake Michigan. The exhibition seems to have been a great success. The admission of certain secret preparations and the presence of ladies while the members were deliberating in the room beneath excited about an equal amount of discussion. It seemed that about seventy-five ladies had entrapped the local secretary to escort them round at a time when he ought to have been elsewhere. Mr. George Seabury moved to solve the difficulty by requesting the ladies to wear slippers.

**

In the course of the meeting at Milwaukee, says the *Oil, Paint, and Drug Reporter*, Mr. Henry Biroth, of Chicago, laid before the Association several bottles of a preparation called "pepsan," which he believed to be of historical interest. The preparation, he said, was put up in 1853 by one Eben Owen, of Chautauqua County, N.Y. Owen lived the life of a hermit, and was regarded by his neighbours as a crank. He was generally spoken of as "Crazy Owen." When he died his cabin was found to contain several packing-cases filled with bottles of the preparation which he called "pepsan," and which he had put up himself. Mr. Biroth stated that the so-called "pepsan" was what is now known as "pepsin," and intimated that the valuable aid to digestion now known and used by dyspeptics the world over was originally discovered and manufactured by "Crazy Owen." The bottles which he exhibited, he said, were taken from the stock which was found in Owen's cabin. The "pepsan" was examined with curious interest by the members of the Association.

**

What is a minim? is a question put to the Editor of the *Lancet* by J. Herschell, Lieutenant-Colonel R.E., Collingwood, Hawkhurst. The learned editor offers no solution of the mystery, and the gallant colonel himself struggles with his difficulty as he would with the Mahdi. Having very unnecessarily confused himself with the wine gallon and the imperial gallon, and the 70,000 grains of water contained in

the latter, he gets at the result that the minim of water should weigh 0·9494 grain, and that a fluid drachm ought to weigh 57 grains. But he has weighed a fluid drachm of water in a minim measure, and found it only 54·6 grains. Now, says the colonel, sternly, "whereas the proper weight of 1 fluid drachm is 57 grains, and the actual weight 54·2 grains, or $\frac{1}{8}$ oz. avoirdupois, the question arises whether the manufacturer confused the fluid and the avoirdupois ounces, or only made a grossly erroneous measure which accidentally tallied with the wrong one. The former seems much the most likely solution, which would be easily tested by the examination of several glasses; and it is to draw attention to what I conceive to be a systematic blunder that I make this communication." The boot is on the other leg. The minim is the $\frac{1}{450}$ th, and the fluid drachm is the $\frac{1}{5}$ th, part of a fluid ounce, which is the $\frac{1}{160}$ th of an imperial gallon. The fluid ounce, at a temperature of 62° Fahr., with the barometer at 30 inches, weighs 437·5 grains. These figures are not theory, but are statute law. They were given in an Order of Council issued in accordance with the Weights and Measures Act, 1878. The weight of the fluid drachm should therefore be 54·6875 grains.

* *

The Statistical Bureau of the State of Massachusetts, under the direction of its chief, Colonel Carroll D. Wright, has drawn up a very curious report, in which an attempt has been made to present an arithmetical comparison between the condition of working-men in that State and in Great Britain. Massachusetts is one of the principal manufacturing sections of the United States, and it is universally claimed that it is to the skilled artisan that America offers the most tempting prospects. The purpose of gathering and publishing these statistics seems to have been to present the proof of that belief, which undoubtedly does appear, but not with such startling prominence as, perhaps, might have been expected. Particulars have been ascertained from 24 trades, and 210 firms in Massachusetts and 110 in Great Britain have furnished facts. The highest and lowest and average rates of wages, and the rates for men, women, and children, are given in a good many tables. From all these the conclusions are arrived at that the Massachusetts rate of wages averages 62 per cent. higher than that of Great Britain, but that the artisan there works 60 hours per week and 309 days per year, while here his weekly hours are 54 and his working days 305 in the year. Against the advantage of income, however, is to be set a considerably higher rate of expense for living, which is also shown in a number of tables. From these it appears that, while provisions cost less in Massachusetts than in Great Britain, clothing, rent, fuel, and groceries are all higher; and, as a crucial test, the budgets of 19 families in Massachusetts have been compared with those of 16 families here, the result being stated that the average Massachusetts family was able to save 6·11 per cent. of its income, while the family here had only a surplus of 1·76 per cent.

* *

The correspondence respecting "Composition Essence" which we publish this month suggests to us that it will be desirable that we should in future publish a list of trademarks, as they are advertised, which concern chemists and druggists. Chemists who sell a compound which they call "Composition Essence" will, we hope, give Mr. Hebdon the assistance he asks for, especially as his action is in the interest of them all.

FORTHCOMING EVENTS.

The Medical and Pharmaceutical Exhibition, which has several times been mentioned, is definitely fixed to be opened on October 13, at Humphrey's Hall, Knightsbridge. Notwithstanding the letter published in the newspapers last month by Mr. Berkeley Hill, the University College Hospital Committee still extend their patronage to the enterprise, and that Institution is to be the residuary profitee. We have received a list of those firms who have already engaged space, and this list includes a number of high-class pharmaceutical and surgical-appliance manufacturers. Mr. W. Southwick Rogers, of the above address, is the secretary.

The Medical and Pharmaceutical Exhibition at Humphrey's Hall is to be succeeded by a Bread Reform Exhibition in November, under the auspices of the Bread Reform League.

* *

The Brewers' Exhibition, including aerated waters and machinery, is to be held at the Agricultural Hall, Islington, from October 20 to 25.

* *

The Antwerp Exhibition, to be opened in May next, is likely to be an important one. Mr. P. L. Simmonds, the British Commissioner, tells us that the manufacturers of other countries are showing greater interest in it than are those of Great Britain generally. Government subsidies have been voted, and the space has been largely taken up.

* *

Chemical products and perfumery will be well represented in the British section of this exhibition. Among British exports to Belgium in 1883 were alkali, valued at 43,986*l.*; bleaching materials, 36,347*l.*; chemical products, 122,938*l.*; coal products (paraffin oil, &c.), 59,418*l.*; medicines and drugs, 14,068*l.*; colours, 39,012*l.*; besides caoutchouc manufacturers to the value of 139,847*l.* There is a rapidly-increasing trade with Belgium, which is worth maintaining. The exhibition is to be open for six months. Mr. Simmonds has obtained a short extension of time before closing the lists for allotment. His office is at 35 Queen Victoria Street.

* *

The prizes of the School of Pharmacy, Bloomsbury Square, will be distributed at 8 P.M. on October 1, after which the annual Address to Students will be delivered by Mr. W. T. Thistleton Dyer, F.R.S., &c., assistant director of the Royal Gardens, Kew.

* *

The National Pharmaceutical Congress, which was to have been held in Turin at the beginning of this month, has been postponed on account of the cholera. It is hoped that it may be held in November.

* *

The British Homœopathic Congress will be held at the Homœopathic Hospital, Great Ormond Street, London, on the 18th inst., commencing at 10 A.M. Dr. Hayward, of Liverpool, will preside.

* *

Dr. Pope, of Tunbridge, will deliver the annual Hahnemann Oration at the Homœopathic Hospital, on October 2, at 5 P.M.

* *

From and after September 29, in accordance with an Act passed during the late session of Parliament at the instance of Mr. R. Martin, M.P. for Tewkesbury, the right of the Corporation of the City of London to exact an annual fee of 5*l.* from persons acting as brokers within its precincts will be abolished. King James I., who would probably have been made an honorary member of the Pharmaceutical Society for his action, gave the Corporation power to appoint a "Garbler," whose duty was to consist in cleaving, sorting, severing, and dividing inferior and spurious drugs and spices from better qualities. The Garbler was found to interfere with legitimate trade, and Queen Anne was advised to abolish him. The City, however, put in a claim for compensation, as the profits of the garbler's office were part of their revenue. They were therefore granted an annual fee of 40*s.* from each broker who practised within their jurisdiction. Subsequently, another officer called the "Gauger" was disestablished, and for compensation the brokers' fees were raised from 2*l.* to 5*l.* The City's control over the brokers has for many years been relaxing, and a great many persons have "acted as brokers," while some, it is said, have styled themselves brokers, without recognising the Corporation's rights, the latter perhaps preferring to acquiesce prudently rather than call attention to their not very necessary protectorate.

CORNER FOR STUDENTS.

CONDUCTED BY RICHARD J. MOSS, F.C.S.

QUALITATIVE ANALYSIS.

THE subject of the next exercise in qualitative analysis will be a mixture of salts. It is to be submitted to a thorough systematic examination, designed to detect all its constituents and to demonstrate the absence of other substances. A complete report of the analysis is to be furnished, giving a list of the metals and of the acidulous radicles detected, and distinguishing those that may be regarded as accidental impurities.

Applications for portions of the mixture will be received up to September 20, and the samples will be forwarded on the 25th.

Students' papers will be received up to October 15.

REPORTS.

The following is the composition of the mixture that formed the subject of the last exercise:—

	Parts
Zinc sulphate	1
Potassium alum	2

The following is the calculated composition of 100 parts of this mixture:—

Zn	7·55
Al	3·88
K	5·48
SO ₄	38·13
H ₂ O	44·98
	100·00

Slight traces of iron and of chlorine were the only impurities of any importance present. It will be observed that the three metals taken together constitute only about one-sixth of the entire mixture, the sulphuric radicle rather more than a third, and water nearly half of it.

The number of reports sent in this time is so small that it would be little use to attempt to generalise upon the results obtained. The chief defects in the work of our contributors were in the detection of potassium and in the proper separation of zinc. There was quite enough potassium present to admit of its being detected with ease and certainty if only a reasonable amount of care was taken in the search for it. In endeavouring to obtain a precipitate of potassium platinic chloride, it must be remembered that this compound is soluble in about twenty times its weight of boiling, and about one hundred times its weight of cold, water, and that the crystalline precipitate takes a considerable time to form completely. It is a safe plan to evaporate the solution to which platinic chloride and a drop or two of dilute hydrochloric acid have been added on the water-bath until it is almost dry, and then treat the residue with alcohol. If nothing remains undissolved it may be concluded that potassium is absent, but if a yellow crystalline precipitate remains, potassium is present. The solution to be examined in this way for potassium must be free from all metals except those of the alkali group, and any ammonium compounds that were present must have been completely removed by ignition, as ammonio platinic chloride closely resembles potassium platinic chloride, and might very easily be mistaken for it. If there should be any uncertainty as to the character of the precipitate obtained, it is very easy to ascertain whether it contains potassium. This is done by igniting the residue after it has been thoroughly

washed with alcohol. If it consisted of the ammonium compound, nothing but finely-divided platinum will remain whereas the potassium compound leaves on ignition potassium chloride as well as platinum. The latter residue should therefore give a very distinct violet colour to the Bunsen flame.

In the analysis of a compound containing zinc, there is one precaution that must be carefully observed if it should be necessary to use sulphuretted hydrogen to precipitate the heavy metals from an acid solution of the compound. In the presence of zinc there must be a sufficient quantity of free acid in the solution to prevent zinc sulphide from being thrown down, otherwise the zinc will make its appearance in the wrong place in the analysis, and the student may mistake it for some other metal. In comparison with the sulphides of the analogous metals, that of zinc is dissolved with difficulty by the dilute mineral acids. It is insoluble in acetic acid. One of the methods for separating zinc from some other metals, notably manganese, is based upon the latter peculiarity. The difficulty with which the sulphide is dissolved in the dilute mineral acids renders it necessary to have a decided excess of hydrochloric acid in the solution through which sulphuretted hydrogen is passed to separate the heavy metals. The opposite extreme must also be avoided, or antimony and tin may remain in solution instead of being thrown down as sulphides. It is not easy to indicate how the proper amount of acidulation is to be determined, but it is always possible to find by trial with part of the solution whether there is too much or too little acid present; the student must also be guided by the information obtained in the preliminary examination of the substance.

PRIZES.

The First Prize for the best analysis has been awarded to

W. BAXTER, jun., Bromley, Kent.

The Second Prize has been awarded to

F. W. ASHTON, care of Messrs. J. P. Boyce & Son, Chertsey.

Marks Awarded for Analyses.

W. Baxter (1st prize)	92
F. W. Ashton (2nd prize)	90
C. D. M.	88
W. Wood	85
T. A. P.	75
A. B. C.	70
E. T. M.	70
E. T. Towill	68
J. F. Cock	65
Forward	60

TO CORRESPONDENTS.

Prizes.—The students to whom prizes are awarded are requested to write at once to the Publisher, naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as second prize.

* * All communications should include the names and addresses of the writers.

C. D. M.—There was no ammonium compound in the mixture. The safest way of testing for ammonia is to employ solid calcium hydrate in a small beaker, moistening it with the liquid to be examined, and, if necessary, warming gently. The beaker should be covered with a glass plate, with a slightly-moistened or turmeric or red litmus paper on the under side. If you employ a solution of potassium or sodium hydrate and heat strongly, some of the fixed alkali may be mechanically carried to the test-paper. The carbonisation of organic matter when heated is the most general indication of its presence that you can obtain.

W. Wood.—The test that you applied for boracic acid requires further confirmatory evidence, such as the test depending upon flame coloration.

A. B. C.—The phosphates of zinc and aluminium are insoluble in water; so in the presence of these metals you could not detect magnesium by the method you employed. The sodium phosphate test for magnesium may be applied to a solution containing the alkali metals, but all others must be absent. You must have obtained a somewhat gelatinous-looking precipitate. Ammonio magnesium phosphate always assumes a crystalline appearance.

E. J. M.—The platinic-chloride test proved the presence of potassium without any difficulty. This is the best test to use. With proper precautions it is delicate and trustworthy.

E. T. Towill.—It is probable that you did not completely separate zinc, hence the precipitate that you supposed was due to calcium. It is easy to see whether enough ammonium sulphide is employed by the colour of the filtrate. In your case there can be little doubt that it was not yellow. You must always be careful to ensure that a reagent employed for the removal of a metal or group is used in sufficient quantity.

J. F. Cock.—Special tests for the metals should only be applied when it is known that there is nothing present that can interfere with the reaction. In chemical analysis system is of the utmost importance. The work must be carried out according to a definite plan.

Forward.—The precipitate which seemed to be due to cadmium was caused by zinc; the solution was not sufficiently acid.

Pharmaceutical Society of Ireland.

THE monthly meeting of the Council was held on the 3rd instant, the President, Mr. J. E. Brunker, A.M., in the chair; also present:—The Vice-President (Mr. Draper), Dr. Collins, Dr. Montgomery, Sir George Owen, Dr. Aquilla Smith, Dr. J. Evans, and Messrs. William Allen, A. Doran, Wells, Minchin, Hayes, and Hodgson.

The minutes of the last monthly meeting, and of a special meeting subsequently held to consider the case of Mr. Fennell, the late Registrar, and at which he was removed from the office, were read and confirmed.

The PRESIDENT stated that, in accordance with the directions given at the last monthly meeting of the Council, he had written a letter on August 19 to the Inspector-General of Constabulary, informing him that the fact had been frequently brought under the notice of the Council that the provisions of the Poisons Act (Ireland) were very generally disregarded by the retailers of poisons throughout Ireland. At the previous monthly meeting several samples of poisons which had been sold in the city of Cork were submitted. These did not bear the name and address of the vendor and the word "poison"; and in some cases neither of these labels was attached. One of the parcels contained cantharides. The letter requested the Inspector-General to issue instructions to the constabulary to enforce a stricter observance of the provisions of the Act. A letter had since been received in reply from the Inspector-General stating that the matter mentioned in his (the President's) letter would be attended to.

The letter and reply were ordered to be inserted on the minutes.

Mr. ALLEN stated, in reference to the case of Mr. Fennell, that since the special meeting held on the subject he had written a letter consulting Messrs. Ennis, solicitors, who had replied recommending that, if no other security could be obtained, a mortgage of Mr. Fennell's stock of books should be taken and registered. A deed had accordingly been perfected and registered by Mr. Fennell's solicitor. Messrs. Ennis in their letter recommended that immediate possession should be taken of the property, of which an inventory had been made by Mr. Sullivan, of D'Olier Street.

The PRESIDENT said there were 827 volumes.

On the motion of Mr. HAYES, seconded by Dr. EVANS, it was ordered that Mr. Sullivan should dispose of the books as soon as he could do so advantageously.

An election was then held for a registrar and clerk of the Society in the room of Mr. Fennell.

Mr. Arthur T. Ferrall was elected out of forty-eight candidates who applied for the office.

The Council then adjourned.

Metropolitan Reports.

THE Hospital Saturday Fund Committee acknowledge the receipt of 25*l.* worth of their goods, for distribution among the hospitals and dispensaries, from Messrs. Burroughs, Wellcome & Co., of Snow Hill.

UNLAWFUL POSSESSION.—At the Lambeth Police Court on August 7 John Philip Davis, aged 41, an assistant to Mr. Isaac Hartness, chemist, of 97 High Street, Peckham, was found guilty of being in unlawful possession of a book belonging to the prosecutor. The prisoner had said that he had lent the book to a friend, but it was found in his box, and other articles such as would be sold in a chemist's business were also in the box, but no charge in reference to these was made. The magistrate fined the prisoner 3*l.*

MESSRS. LYNCH & CO.'S employés had a day in the country on Saturday, August 23. The party started from Aldersgate Street at 8 A.M., and drove by way of Clapham, Mitcham, and Sutton to the Hand-in-Hand, Reigate, near Boxhill. Besides other enjoyments a capital dinner was served, after which some speeches were made. Mr. Peck, manager of the patent-medicine department, proposed the health of the firm, expressing regret that Mr. Lynch and other members of the firm were unable to be present. Mr. Cocks, cashier, responded on behalf of the firm. The city was reached again at 11 P.M.

THE SALE OF CARBOLIC ACID.—On September 3 Mr. W. Carter, coroner for East Surrey, held an inquest at the County Terrace Tavern, New Kent Road, on the body of Anthony Kendall Wyke, aged 42, an actor, residing at the Palatinate, Gurney Street, New Kent Road, who committed suicide by drinking a quantity of carbolic acid. The evidence of the wife of the deceased showed that he had been in great straits, having had no engagement for three years. Witness had feared their pecuniary circumstances were driving him mad. On the previous Friday he and she went out a little way to accompany a friend, and the deceased began raving and shouting and wringing his hands in the wildest manner, and this continued during the night. At an early hour on Saturday morning he made his way to the kitchen and poured some carbolic acid into a glass and drank it off, and then became insensible. By the coroner: He knew where the carbolic acid was. It had been sent previously by the landlady for scouring their apartments out with. It had no label on it. The coroner, in summing up, said he had had several cases lately of suicide by carbolic acid, and strongly commented on the ease with which all sorts of poison could be obtained. The jury returned a verdict of "Suicide under mental derangement," and thought a rider ought to be added dealing with the sale of poisons. The Coroner: It is perfectly useless, and I am utterly powerless to help you in the matter.

A PRESCRIBING CHEMIST.—On August 28 Mr. W. Carter held an inquest at the Woodman Tavern, John Street, Old Kent Road, on the body of Alice Leah Dowding, aged one year and three months, who died on August 26. Maria Dowding deposed that the deceased was her daughter. The child had enjoyed good health until three days before her death, when she appeared poorly. As one of the children was recovering from the measles it was assumed that the deceased had caught the complaint, and Dr. Edwards, of Tabard Street, who was consulted, prescribed for her. The Coroner.—What is Mr. Edwards? Is he a surgeon, or what? Witness.—I was under the impression that he was a doctor, but I now understand, through your officer, that he is only a chemist. He attended my husband before his death. The coroner remarked that it was a great shame that chemists who were not qualified to attend on the sick should prescribe for them. By their so doing it often gave poor people a great deal of unnecessary trouble, and, beyond that, it put the county to a great expense in consequence of the chemist's inability to certify the cause of death. In further answer to the coroner, the witness said that the deceased got worse, and some castor oil was administered to her. During the night she was seized with a fit and died before the arrival of a medical gentleman who had been sent for. The jury returned a verdict of "Death from natural causes," at the same time expressing an opinion that some steps should be

taken to prevent unqualified gentlemen prescribing for and attending on the sick, thereby avoiding a great waste of time and expense to the county.

CRICKET.

MESSRS. S. MAW, SON & THOMPSON'S CRICKET CLUB report the following result of their season's engagements:—They won 4 matches, defeating the 3rd Middlesex (104 to 23), Howards & Sons' (38 to 27), Burgoynes' (59 to 58), and St. Michael's (97 for 8 wickets to 52). They were defeated by Baiss Brothers' (31 to 67) and Howards' (34 to 100); and five times matches were drawn—namely, with the Olympic, Burgoynes', Faudell Phillips', and Waterlows' twice.

A CLOSE MATCH.—S. Maw, Son & Thompson C.C. v. Burgoynes, Burbidges, Cyriax & Farries C.C. Played at Nunhead, on Saturday, August 16.

S. M. S. & T. C. C.

J. G. Jordan, c Tate, b Fennimore	15	Bew, c Keefe, b Shaw	1
Tate, b Pearce	0	Tate, b Pearce	0
T. Bradbury, b Jordan	18	T. Bradbury, b Jordan	18
Fennimore, c Newton, b Shaw	3	Fennimore, c Newton, b Shaw	3
J. Bradbury, st Jordan, b Shaw	2	J. Bradbury, st Jordan, b Shaw	2
Flowerden, b Jordan	1	Flowerden, b Jordan	1
Taylor, c Newton, b Shaw	10	Taylor, c Newton, b Shaw	10
Reid, b Shaw	2	Reid, b Shaw	2
W. Bradbury, b Pearce	5	W. Bradbury, b Pearce	5
Farrell, 1 b w, b Shaw	0	Farrell, 1 b w, b Shaw	0
Wickham, not out	6	Wickham, not out	6
Extras	10	Extras	10
	59		58
Extras ..	7		

B. B. C. & F. C. C.

Bew, c Keefe, b Shaw	1
Tate, b Pearce	0
T. Bradbury, b Jordan	18
Fennimore, c Newton, b Shaw	3
J. Bradbury, st Jordan, b Shaw	2
Flowerden, b Jordan	1
Taylor, c Newton, b Shaw	10
Reid, b Shaw	2
W. Bradbury, b Pearce	5
Farrell, 1 b w, b Shaw	0
Wickham, not out	6
Extras	10

SINCE we last reported the City Mills C.C. (Messrs. Howards & Sons, Stratford) have played six matches, of which they won three, lost two, and drew one. On July 19 they played the Forest Gate C.C. Score : City Mills, 104; Forest Gate, 62. On July 26 they played against the S. Maw, Son & Thompson C.C., when City Mills only scored 27 while their opponents made 38. On August 2 the Burgoynes, Burbidges, Cyriax & Farries C.C. faced them, and these also defeated them by 80 runs to 60. They met J. T. Morten's C.C. on August 9; City Mills scored 91, and J. T. Morten's C.C. lost six wickets for 72 runs. On August 16 they disposed of the Plaistow Ramblers for 38 runs, after figuring 114 to their own credit; and on August 30 they won a narrow victory over the Atlas C.C. by 36 to 34.

During the season the City Mills C.C. have played thirteen matches, of which they have won eight, lost two, and drawn three. In these thirteen matches the City Mills have scored a total of 968 runs, against 590 credited to their opponents. This, as far as we know, is the champion record of the drug and chemical cricket clubs of the season.

TRADE-MARKS IN AMERICA.—Two cases recently decided in American courts seem to show that a high standard of veracity is necessary to the establishment of trade-mark rights there. One case was brought before the Supreme Court. The manufacturers of "Atwood's Quinine Physical Jaundice Bitters, Georgetown, Mass." asked for an injunction against some persons in Portland, Maine, who, they alleged, were imitating the concoction and label. On the trial it appeared that Atwood was dead, and that the medicine was not manufactured at Georgetown, Mass., but at New York, by the Manhattan Medicine Company. These statements were held by the Court to be misleading to the public, and an injunction was refused on the ground that a trade-mark must contain nothing but what is absolutely true, if it be desired to prevent outsiders from imitating it. Still more recently, in a Maryland court, action was brought to prevent imitations being sold of the "Aromatic Bitters" or "Angostura Bitters, Prepared by Dr. Siegert, at Angostura, now Port of Spain, Trinidad." It was shown in evidence that Dr. Siegert had never lived at Angostura, and had been dead some ten years. After his death a firm was formed for the purpose of manufacturing his compound, and the place of business was changed to Port of Spain, but the statement was kept on the labels that the medicine was manufactured by Dr. Siegert. These statements were also held to be misleading and false, so that the aid of a court of equity would not be granted to prevent any imitations.

Provincial Reports.

BIRMINGHAM.

Notes written for THE CHEMIST AND DRUGGIST.

One of the days (during the hottest week we have had for years) of last month the water-supply for several parts of the town was turned off, in consequence of which a report got abroad that the Irish Invincibles had deliberately poisoned the reservoirs. Several persons called upon a local chemist to inquire whether they had not better have some antidote, as they had drunk the water in the early part of the day. One old lady in particular minutely described her symptoms. The report was only a *canard*. The feelings of the self-made victims when this was known can be better imagined than described.

The water scare in the town brought into notice a proof of the special necessity for young men aiming to be chemists in the future. A very instructive letter appeared in one of our daily papers (from a Major man) giving a quantitative analysis of the water supplied to the town (of which there has lately been many complaints), and comparing it with analyses of the water supplied to London, Manchester, and other large towns. Had the letter been penned by a chemist in business, we have no doubt it would have brought him more prominently before the public, and have yielded pecuniary benefits as a return for the extra expenses incurred in education. Let present assistants and apprentices make a note of this.

"Fortune favours the brave" is an expression trite but true. As an exception, it has in a very pleasant way lately favoured the "Humble" with a substantial legacy quite unexpected. [N.B.—"Humble" is a brother tradesman in this town.] The report current that he had purchased another business as a branch is without foundation.

Charles Davis, chemist's assistant, was sentenced by the Leamington magistrates to a fortnight's imprisonment for attempting to commit burglary. It transpired he had lately wandered about very much at nights, and that he had been suffering from delirium tremens. He was in a terrible state of nervous excitement, shaking convulsively from head to foot.

POISONING CASES.—Benjamin Higgs, a little boy, admitted to the Queen's Hospital suffering from the effects of eating the berries of the "deadly nightshade." In a precarious condition.—Elizabeth Goodwin, an old woman, took "six of laudanum"; was conveyed to the Queen's Hospital, where emetics were successfully administered.—Eliza Urquhart, servant, took a quantity of salts of lemon, which she had carried about in her pocket for some time. A surgeon gave her an emetic, and sent her on to the Queen's Hospital, where she got better. She told the magistrates she was tired of life.—George Price (Wolverhampton) took a dose of poisonous liniment; remains in the hospital in a critical condition.—Elizabeth Marlow (Walsall) took some Battle's vermin-killer; fatal termination.—Jane Stratford, single woman, attempted suicide with brandy and vermin-killer. She bought a packet of mice poison in the usual way, mixed it with brandy, but upon taking it she screamed out and said what she had done. She was taken to the Queen's Hospital, and restorative measures were adopted with success.—Two children were found lying by the roadside, near Kingswood, seriously suffering from the effects of eating poisonous berries. They were quickly conveyed home, carefully attended to, and are now progressing favourably. We can only surmise this to be a similar case to the one previously mentioned.—Thomas Nelson Cannon, aged three months, died from diarrhoea brought on by two doses of syrup of buckthorn.

JOHN PEAKMAN, a middle-aged man, was summoned for using threats towards James Nolan, chemist, Coleshill Street, his relative. Defendant threatened to strike him with a can, threw some mud at him, and tried to strangle him. Defendant was bound over to keep the peace in 5*l.* He has been bound several times.

INTERESTING DISCOVERY.—While some excavations were going on near the corner of Bull Street, the workmen came across some skeletons of human beings. The exact spot of the discovery is below the floor of what was formerly the "still-room" of the premises occupied by Mr. J. Blackwell, pharmaceutical chemist. Some centuries ago the present

ground was part of a churchyard, and the bodies found are supposed to be some of the interred ones "not yet turned to clay."

An inquiry has been held by Mr. B. Weekes (deputy coroner) touching the death of James Dedman, a child ten months old, whose parents reside in New Summer Street. The child had been suffering from diarrhoea and vomiting, and the mother took it to a Mr. Kemp, 47 New Summer Street, who prescribed for it, giving a mixture and powders to be taken. It died the same evening, after vomiting very much, the medicine being vomited each time it was taken. Mr. Kemp was called as a witness, and said he practised simply as "Mr. Kemp." He had a plain card in the window, "Mr. William Kemp, from the Army Hospital." He had been a hospital sergeant, and had also been an assistant for five years with Mr. Marrian, surgeon, Newtown Row. He started practising on his own account four or five months ago. Witness described the medicine he gave the child, the mixture being tincture of catechu, aromatic confection, carbonate of soda, and dill water. Mr. Jackson, surgeon, who had seen the body, said that the cause of death was diarrhoea and convulsions. He had no fault to find with the medicine, except that it was five or six times too strong for a child of the age of deceased. In that way it was an improper mixture. The Deputy Coroner: Would it accelerate death? Witness: In a child of that age if it produced vomiting, that vomiting would be calculated to accelerate death from the exhaustion it would cause. The Deputy-Coroner said that by Kemp's signboard he clearly held himself out to the people as a surgeon. At the adjourned inquest Mr. Kemp had the testimony of two surgeons to support what he had stated. Mr. Jackson and Dr. Samedby having made a post-mortem examination, stated death was caused by convulsions following diarrhoea. The jury brought in a verdict of "Death from convulsions," and censured Mr. Kemp for leading the public to believe he was a qualified medical man.

GREENOCK.

FIRE.—A large fire occurred here last month, destroying and damaging several buildings, among others the laboratory and warehouse belonging to Messrs. Macnaught Brothers being injured to the extent of about 300^t.

GLASGOW.

LABEL EVERYTHING.—In the interesting history of his business which Mr. Frazer gave at the opening of his new Buchanan Street premises, which we alluded to last month, he told the following anecdote as illustrating the need of systematic caution in labelling medicines. Early one morning, when he was an apprentice in the business, and when his brothers were both at breakfast, a butler or footman applied for 3 oz. of laudanum. It need not be labelled, he said, for it was to be emptied into the medicine-chest immediately. But the apprentice insisted. A quarter of an hour later the footman returned, saying it was tincture of rhubarb that was wanted, not laudanum.

LEEDS.

ALLEGED ADULTERATION OF LEMONADE AND GINGER BEER.

On August 29, at the Otley Police Court, before Mr. A. Fawkes (chairman) and Messrs. J. Garnett, T. C. Wilkinson, and W. Fison, the Ilkley Brewery Company was summoned for selling lemonade and ginger beer adulterated with lead. Mr. H. A. Child defended. Superintendent Birkill said he was appointed inspector for the district under the Food and Drugs Act. On July 16 he went to the Ilkley Brewery, there saw the manager, and asked for a sample of lemonade, intimating that he wanted it for the purpose of analysis by the West Riding analyst. A sample was supplied and divided into three parts, the manager keeping one, witness keeping one, and the third being sent to Mr. Allen, of Sheffield, whose certificate was as follows:—"This sample contains a very notable quantity of lead. I estimate the proportion of lead present at 1/4 grain of the metal per imperial gallon. This proportion is highly objectionable, and even dangerous. If a liquid containing the quantity of lead present in the sample were habitually drunk, severe and even fatal symptoms of lead-poisoning would be liable to ensue."

Mr. Child, in cross-examination, elicited from Mr. Birkill that he did not suppose the defendant company had wilfully used lead with an intention to defraud; and in his argument for the defence he submitted that in the absence of fraud the case must fail. He raised several other objections on points of law, all of which, however, were overruled. He then handed in the certificate of another analysis made by Mr. Rimmington, of Bradford. This was as follows:—"Amount of solid matter (sugar, &c.) 855 0. Lead or copper doubtful. A slight discolouration was caused in this sample by the addition of sulphuretted hydrogen, but no metal could be detected in the ash after incineration, and the sample was too small to allow a second trial. Assuming the actual presence of lead, it is in so small a quantity as to be practically inert, and would not exceed the twentieth of a grain per gallon, and is probably derived from the acids used in syrups. This must be the case, as the water is free from such impurity." In the face of this conflicting opinion the Bench decided, on the suggestion of Mr. Child, to forward the sample bottle in the hands of the inspector to Somerset House for analysis, by the result of which they would be bound.

There was a second summons in regard to ginger beer being similarly adulterated, and the justices directed that the inspector's sample of this be also sent up at the same time, and that the cases stand adjourned.

Mr. William Brown, of the brewery, Yeadon, was similarly charged for selling ginger beer adulterated with lead, and which the county analyst certified to contain 2 9, or nearly 3 grains of lead per imperial gallon—a proportion which was highly dangerous; and if the liquid containing it were habitually drunk, doubtless symptoms of lead-poisoning would in all probability ensue, and actual death might result.

Mr. Child, who defended, set up that as in this case the inspector had not asked Mr. Brown to have the sample divided into three parts, the terms of the Act had not been complied with. In support of this contention, he cited a case in point; moreover, the Act said the inspector was to retain one of the parts, the obvious reason being, that in the event of conflict such as that in the previous case, it might be sent to the authorities at Somerset House. But Mr. Birkill had not done that, and the case must fail.

Dismissed accordingly.

There were two other charges of a like nature—one against Mr. John Almgill, chemist, of Yeadon, and the other against Mr. Frederick Ellin, aerated-water manufacturer, of Otley. In these it was shown that the analyst had failed to comply with the Act, in not having returned a portion of the sample analysed. That omission, Mr. Child argued, was also fatal.

Both cases were dismissed.

PLYMOUTH.

THE LAW ON BILL-STICKING.—Mr. Samuel Darley King, partner in a "Medical Institute" at Plymouth, was sued by a gentleman because one of the bills of his firm, headed: "Confidential medical advice," had been pasted on plaintiff's garden-gate. The judge said it was a trespass to post a bill on a private door, but defendant was not responsible unless it could be shown that he had authorised the bill to be so posted.

RETFORD.

MILK ANALYSIS.—A case heard at Retford, after adjournment on August 18, revealed a considerable discrepancy between the certificate of Dr. Trueman, the Notts County Analyst, and that sent from Somerset House. Some milk had been purchased from a Mr. Ledger, a very respectable milk-seller of Retford, and Dr. Trueman certified that the milk contained—solids, 11·24; fat, 1·735; solids, less fat, 9·505; and concluded, therefore, concerning the milk, "that it was deficient in fat, to the amount of 30 per cent." That meant that cream had been abstracted. The analysis from Somerset House was as follows:—"We hereby certify that we have analysed the milk, and declare the result of our analysis to be as follows: Non-fatty solids, 8·73; fat, 2·58; water, 88·69. The percentage of fat is low, but not lower than is found in genuine milk of low quality. From a consideration of the result we are unable to affirm that cream has been extracted from the milk." (Signed) J. BELL, G. LEWIN, W. HARKNESS. Mr. Bescoby, for the defendant, made some strong remarks respecting the local analysis, and the Bench dismissed the case, and allowed full costs, including the advocate's fee.

PHARMACY IN AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

MELBOURNE, VICTORIA, July 20.

THE GOVERNMENT AND THE PHARMACEUTICAL SOCIETY.

THE inspection of the College of Pharmacy, and the luncheon given to the visitors by Mr. C. A. Blackett, the President of the Pharmacy Board of Victoria, is an event which will long be remembered in the annals of pharmacy in Victoria. The gathering was a most representative one, and included the Premier, Mr. Service; the Attorney-General, Mr. Kerferd, who represented the Government; Messrs. Zox and Bosisto, Parliament; the Vice-Chancellor, Professor Elkington, and Mr. Ellory, the Melbourne University; Dr. Nield and the President of the Medical Society, the medical profession; the Mayor of Melbourne and the Town Clerk; the President, Vice-President, and Treasurer of the Pharmaceutical Society of Australasia, &c. Commercial interests were represented by Mr. Alfred Felton and Mr. H. T. Tompsett.

After a tour of the building (a detailed description of which I hope to send you in my next letter) an adjournment was made to the library, where an excellent luncheon was laid. Mr. Blackett occupied the chair.

Dr. Nield proposed "Success to the College of Pharmacy." He regarded the Pharmacy Act as one of the best pieces of legislation on the statute-book. That day marked an epoch in the history of pharmacy in the colony. It was the culmination of many efforts to found the science of pharmacy upon a sure basis. It was a defect in the Melbourne University that the pharmacy students there were not well grounded in the *materia medica* department. Therefore the profession had worked more strenuously to erect the college, so that young men studying pharmacy might have the best means for maturing their studies and carrying them out on a plan which would be productive of practical good.

Mr. Bosisto replied, claiming for the College of Pharmacy the character of a grand national educational establishment, the fees of which were so small that it was practically open to the son of the poorest man in the community. He heartily thanked the present Government, and also the late Government, for the kindness and liberality which they had extended to the College of Pharmacy; and he trusted that, if any assistance should be required in the future, the Government of the day would be equally kind, and would regard the institution as a national one in the broadest sense of the term.

Mr. Service proposed "The President of the Pharmacy Board, Mr. C. R. Blackett," and remarked that success in the instance before them seemed to have come of persistence of aim and single-mindedness of purpose. It was extremely gratifying to him (Mr. Service) to be present. The title of the Society, he was glad to perceive, was the "Pharmaceutical Society of Australasia," a title of federal significance, pointing to the grand future that was in store for these young colonies. He was very glad to hear of the progress of pharmaceutical institutions in Victoria, and would ask the company to drink the health of the worthy president of the Pharmacy Board (Mr. Blackett).

Mr. C. R. Blackett, in response to the toast, referred to the struggles of the original members of the Pharmaceutical Society, and acknowledged the valuable assistance the present and the last Government had given them. He hoped for an assimilation of pharmaceutical institutes in the various colonies. He was glad to hear the Premier's reference to the federal character of their Society, for it was perfectly true that they were labouring to the utmost to secure uniform pharmaceutical legislation throughout the colonies. It could not be disputed that the health of a community was conserved by an educated body of pharmaceutical chemists, and hence the desirability of having a recognised institution such as they were inaugurating that day. The next step, he hoped, would be the affiliation of the College of Pharmacy to the University of Melbourne.

THE IMPORTATION OF OPIUM.

Mr. Tusug Tart, a Chinese merchant of Sydney, has had an interview with the Government in reference to his proposal to secure uniform legislation in the colonies to prohibit the importation of opium except for medicinal purposes.

The interview was a very satisfactory one, Ministers agreeing with their visitor that it was desirable to check the great consumption of the drug. The Chief Secretary has arranged for an early visit to the Chinese quarters in the city and the suburbs, in order that he may have an opportunity of judging to what extent the use of opium is the cause of the misery characteristic of these places.

DEATH OF MR. WALLER JONES.

I regret to announce the death of Mr. Waller Jones. The news was received by cablegram from New York. Mr. Jones was pharmaceutical chemist of Great Britain, and was on his way to England to qualify for the medical profession. Mr. Jones was for some time a member of the Council of the Pharmaceutical Society of Victoria and gave promise of considerable ability, and his death at the early age of thirty-one is much to be regretted.

REMARKABLE DISPENSING ACCIDENT.

An extraordinary prosecution has just taken place for manslaughter, when Dr. C. W. Günst was charged with causing the death of one Helen Tombs.

The case for the Crown was that defendant was a duly-qualified medical practitioner, living in Melbourne. On the evening of July 1 he was called in to attend Miss Tombs at the Waterloo Hotel. He wrote a prescription for her for a liniment and for a powder. The powder was to contain morphia and muriate of quinine. In the prescription for the powder the defendant wrote 10 grains of morphia. This was a mistake, as the dose should have been only half a grain of morphia; but the defendant omitted to add to the prescription a sign showing that the smaller quantity of morphia only was to be given. The prescription was made up at the establishment of Mr. Hooper, chemist, in Bourke Street. Miss Tombs took the powder, and died on the same evening. It was contended, for the Crown, that the defendant was guilty of culpable negligence in writing the prescription as he had done.

Edward Hooper, chemist, said that he had made up the prescription. In cross-examination, he said that he told the boy that it was a strong poison. The words, "not to be taken," were allowed to remain on the liniment, but were cut from the label placed on the powder. The powder was marked to be "used as directed." He did not know the initials on the prescription. The boy stated as he was going away that the prescription was written by Dr. Günst. Muriate of quinine was not in the allopathic pharmacopoeia. The prescription contained the letters "M.d.u.", which meant to be used as directed, and for external use.

Charles Ogston, assistant to Mr. Hooper, said that he noticed the dose of morphia was a large one, and he handed it to Mr. Hooper to verify it. Hooper asked the boy if Miss Tombs had wounds or sores, and he said he did not know. Hooper told the boy to be careful as it was a strong poison. There was nothing in the prescription to show that it was homoeopathic.

Charles Pleasance, homoeopathic chemist, of the firm of Martin & Pleasance, said that the prescription was for muriate of morphia, 10 gr.; muriate of quinine, 5 gr. The letters "M.d.u." meant that it was to be made into a powder to be used as directed. If the prescription had been presented to him, he would have come to the conclusion that it was intended for a preparation of 1 in 20 of muriate of morphia. Dr. Günst had that preparation in constant use. In cross-examination witness said that in homoeopathic preparations it was invariably the custom to make up this prescription with sugar of milk. He would not have given 10 gr. of the muriate of morphia without referring it to the doctor.

The Lord Chief Justice, in summing up, said that the jury should bear in mind that there were two kinds of negligence—one for which a person was liable to pay damages in an action against him either by the person injured or his representatives, and the other where the negligence was of so gross a character as to be criminal. A man was not to be punished criminally for a mere error, although he might have

to pay for it in an action. In this instance he would have been inclined to stop the case were it not for the fact that the medicine prescribed was of a poisonous character. The jury would consider whether allowance was not to be made for the fact that the defendant thought the prescription would be made up at a homeopathic chemist's, and that his attention had been distracted by the first prescription being spoilt, and by Mrs. Morgan talking to him.

The jury, after half-an-hour's deliberation, returned a verdict of "Not guilty." The foreman added that they considered that greater precaution should have been used by the chemist and his assistant before they allowed a large poisonous dose to be sent out without further inquiry.

The defendant was then discharged.

From Sydney I learn that Mr. Mayne is taking steps to bring about the proposed Intercolonial Pharmaceutical Conference. I also hear of some changes in the Council of the New South Wales Pharmaceutical Society. Our New Zealand friends appear to have fallen into their usual winter torpor, for I have heard nothing from them for the past three months.

I have to chronicle two handsome additions to our many attractive pharmacies. Both are situated in the suburb of Hawthorne. The proprietors are Mr. N. Wylie, who for some years past has carried on business in that suburb, and the other is for Mr. F. A. Dunn, formerly of Richmond. I propose paying them a visit, when I shall be able to furnish a description of the premises.

PHARMACY IN CANADA.

(FROM OUR OWN CORRESPONDENT.)

MONTREAL, August 26.

I HAVE to report the retail drug business very quiet. Every one who can possibly get away is out of town to tone up a little before our terribly-long winter sets in. The last two weeks have been unusually hot, the thermometer standing at 88° to 90° Fahr. in the shade. On the whole the summer has been cool—far too cool for the seaside and mountain resorts, which have not been paying concerns this year. Montrealers seem to have decided in favour of what in Canada are termed inland watering-places, that is, charming country places near a wide stretch of fresh water; and this being the land *par excellence* of lakes and rivers, no difficulty is found in the selection. Boating, fishing, bathing, and "loafing" are the principal amusements. St. Anne's, Pointe Claire, Valois, Lachine, Belair, St. Hilaire, and St. Lambert are fair types of such delightful spots. The railroads cater for this business, and run trains to and fro at suitable hours for paterfamilias to get to business and return in the evening.

Mr. Haldane Haswell has gone into partnership with the Mr. McDougall who purchased the bankrupt stock of the old firm of Haswell & Co. On *dit* the name of the new firm will be "McDougall, Haswell & Co," and they will carry on business as wholesale druggists at the old stand in St. Paul Street. The trustees have declared a dividend of 33½ per cent. on the dollar, reserving £900 for legal decisions on certain disputed claims.

Mr. H. Sugden Evans is about to retire from the firm of H. Sugden Evans & Co., and has been appointed by Sir John A. McDonald Chief Analyst for the Dominion under the new Food and Drug Adulteration Act. Mr. Evans has left for England on business. On his return it is expected he will take up his residence at Ottawa. The general opinion is that he is the right man in the right place. Dr. Baker Edwards is the local analyst stationed in Montreal, and has a very responsible position, and is also looked upon as the right man. He is also Professor of Microscopy and Chemistry in Bishop's College. Dr. Edwards will find plenty of work to keep him busy, as the adulteration of such things as coffee, spices, cream of tartar, syrups, chocolates, and spirituous beverages is carried on to an alarming extent in Canada. The Act, if well enforced, will have the good effect of preventing wholesale houses from catering to the wants of retailers, who are always on the look-out for cheap goods. Little or no adulteration is done by the retailer. It is the

wholesale and manufacturing houses who do that kind of thing, in order to undersell more conscientious competitors.

The news from Europe about cholera is rather conflicting, and Boards of Health are in the dark as to the true state of affairs in France. The latest telegrams say the epidemic is spreading in Southern Europe. It is feared here that the bad water-supply in many English towns will go against them should cholera appear in England. Cleaning up is the order of the day with us.

The British Association for the Advancement of Science meets here this week. Large numbers of scientists and others have already arrived. The City Council is to present an address on Wednesday next in the Queen's Hall. The Corporation has voted £3,000 towards the expense of entertaining the visitors, and a private subscription has been got up by the leading citizens.

The Council of the Pharmaceutical Association met a week or two ago, and elected the following officers for the coming year:

H. F. Jackson, president; Edmond Giroux, first vice; J. A. Harte, second vice; Alex. Manson, treasurer; Wm. Ahern, registrar and secretary.

Examiners:—Henry R. Gray, J. D. L. Ambrosse, Alex. Manson, Edmond Giroux, Paul Mathie, with H. F. Jackson, president, chairman *ex officio*.

Preliminary examiners for City of Quebec and district:—Edmond Giroux, R. McLeod, Paul Mathie.

Preliminary examiners for Montreal and district:—S. Lachance, C. J. Covernton, William Ahern.

The lectures at the College of Pharmacy commence on October 1.

FABBRICA LOMBARDA DI PRODOTTI CHIMICI— MEETING OF CREDITORS.

(SPECIALLY REPORTED FOR "THE CHEMIST AND DRUGGIST.")

THE meeting of the creditors in the bankruptcy of the Fabbrica Lombarda di Prodotti Chimici took place in Milan, on September 5, at 12.5, in the Hall of the Tribunal of Commerce, in Via Clerici.

The meeting was presided over by Judge Biraghi, who opened the proceedings by inviting those present to inscribe themselves in the list of creditors. The creditors present or represented were fifty-four; most of them were represented by well-known Milanese barristers.

Professor Maglione, temporary curator (appointed by the tribunal of commerce to represent the creditors during the bankruptcy proceedings), then read a detailed report. Before summarising it, it will be convenient to mention a report which was also presented by the Board of Directors of the manufactory.

The Board of Directors in their report state that, besides the duty of supplying to the creditors all available information, they intend to put forward their legitimate defences against all those who, both now and before, tried with violent language to burden the Board of Directors with a moral responsibility that none of them ever accepted or intended to accept. As to the legal responsibility—they leave it to be settled by those who are competent to do it.

They state that the rules of the Society have never been violated. According to Rule 15 the Board of Directors must have an ordinary meeting once a month. It has always been held, besides several extraordinary meetings. According to Rule 20 the two managers have very large powers entrusted to them, with full authority to do and undo at their pleasure. In the extraordinary meeting held on May 15, 1882, the Board of Directors rescinded the engagement with the manager, Alessandro Böhringer. This was to have effect on July 1, 1884.

The first cause of the bankruptcy dates as far back as the year 1880. According to the advice of the manager, A. Böhringer, the capital was then increased, and the production of sulphate of quinine was brought up to 200 kilogrammes daily. It was aimed at dominating the markets of the world, and at checking the wild speculation which had seized and monopolised the trade in the raw material. In order to produce bark, the Society bought some lands in Columbia.

It was soon seen that the forces of the Society were unequal to the task, and it was resolved to limit the production. This happened in the measure of about one-third in the year 1882-83, though Signor A. Böhringer and the managers made very onerous contracts without the knowledge of the Board of Directors. It has also appeared that frauds have been committed. In the balance-sheet of June 30, 1883, were entered 960 bales of quinine, which only arrived in the store during July; the average chemical analysis was elevated to 2·02, which figure was false by 35 per cent., the real average being only 1·28. As these figures were within normal limits it was impossible for the Board of Directors to perceive the alterations, which had been perpetrated by Signor A. Böhringer, with the silent concurrence of the administrative manager and one of the directors.

The report then explains at some length the reasons of the difference between the balance-sheet presented by the directors on June 30, 1884, and that compiled by Professor Maglione on August 14.

It ends by recording the opinion of the directors that the manager, Alessandro Böhringer, was useful to the manufacture as long as he kept his energy within proper limits; but, inebriated by the first successes, led more by ambition than by gain, he plunged into speculations, gambling, and frauds. The administrative manager, Pestalozza (who put an end to his life by poison), acquiesced, owing to his weak character, without personal profit. The directors in vain tried several times to call them more stringently to duty; but no one could for a moment have a doubt of their honesty and zeal, and no one outside of the Board ever had a doubt of it.

The report read by Professor Maglione, as curator of the creditors, regards the several periods of the Society from August, 1884 to the present time. We will sum up the principal points.

On August 5, 1884, the board of directors of the Fabbrica Lombarda di Prodotti Chimici asked the Tribunal of Commerce for a *moratorium* (delay to meet the engagements), which was granted.

The balance-sheet of June 30, 1884, presented a deficit of 1,866,283f. 29c., which had to be deducted from the capital; but that balance-sheet was only numerical. On asking for the *moratorium* the Board presented a statement of what it considered the real situation, which, after the loss of the whole capital of 6,000,000f., presented the following results:

	Fr. C.
Assets	11,872,576 85
Liabilities	10,919,735 76
Surplus	666,841 09

The details of this situation are as follows:—

	Fr. C.
Value of the manufacture	2,610,940 21
Debtors	3,003,695 75
Cash	15,942 76
Lands in Columbia	401,441 10
Stocks and shares	9,506 55
Bills	45,607 64
Due from shareholders	169,000 00
Merchandise	5,616,442 84
Total	11,872,576 85

	Fr. C.
Bills unpaid	2,427,234 32
Creditors	8,482,766 44
Workmen's fund, &c.	9,735 00

	Fr. C.
Total	10,919,735 76

The curator had proceeded to a general and rigorous valuation of the assets and liabilities, and it appeared that the situation was much worse; besides the loss of the capital of 6,000,000f., the deficit appeared to be 5,468,554f. 43c. The general results are as follows:—

	Fr. C.
Assets	12,617,489 29
Liabilities	18,086,043 72

	Fr. C.
Deficit	5,468,554 43

The details of this situation are as follows:—

	ASSETS.	Fr. C.
Buildings	404,500 00	
Machines, plant, &c.	940,000 00	
Lands	610,000 00	
Plantations in Columbia	401,441 10	
Merchandise	354,274 69	
Raw materials and stock	1,035,792 18	
Store of cinchona bark	337,728 29	
Merchandise in other hands	4,748,727 00	
Stables, horses, &c.	14,765 50	
Cash	13,568 74	
Different values	12,216 55	
Deposits in custody	14,042 00	
Values in other hands	50,150 00	
Bills	50,112 00	
Due from Shareholders	128,675 00	
Special debtors	70,642 25	
Different debtors	3,377,953 02	
Probable profits	52,900 00	
 Total assets	 12,617,489 29	
Estimated loss	5,468,554 43	
 Grand total	 18,086,043 72	

	LIABILITIES.	Fr. C.
Bills	3,235,990 09	
Creditors on account of work on goods	482,917 57	
Creditors on account of deposits in custody	14,042 00	
Creditors on account of loans	55,997 12	
Workmen's fund	7,324 00	
Special creditors on values	725,642 25	
Special creditors	581,149 60	
Different creditors	10,174,037 09	
Loss fund on merchandise in others' hands	849,944 00	
Loss fund on Columbian plantations, on bills, &c.	1,959,000 00	
 Total	 18,086,043 72	

It is therefore evident that not only the whole capital is lost, but that the creditors will also be liable to a large loss.

The report presents afterwards the results of the temporary management of the manufactory, which began during the month of August. The production of quinine was reduced from 100 to 30 kilos. daily. The financial results were not unfavourable.

The report says that the management was apparently regular, though an attentive eye would have discovered the hidden irregularity. The alterations in the stores were rather gross. According to the inventory of June 30, 1883, the stocks of cinchona bark were:—

	Kilos.
Bales in store, 3,612; containing of sulphate of quinine	6,009 40
Bales afloat, 3,292; containing of sulphate of quinine..	6,572 22

On the contrary, the bales in store were only 2,662, with 2,463·66 kilos. of quinine; those afloat were 1,967, with about 2,000 kilos. of quinine. Instead of 12,671·62 kilos. of sulphate of quinine, there were only 4,463·66 kilos.—a difference of 8,207·95 kilos. of sulphate of quinine. Their price being taken at 340f. each kilo., the loss in the situation was 2,800,000f.

In summing up, and by clearing those assets and liabilities which compensate each other, the result is the following:—

	Fr. C.
Assets	4,565,051 29
Liabilities..	10,033,605 72

The assets being only 45 per cent of the liabilities. It is, however, probable that the assets may undergo again a slight reduction owing to expenses in bankruptcy, &c.

The report concludes by saying that several creditors have asked for legal proceedings against the board of directors.

The report was received with great attention and general assent. No debate worth recording followed.

Professor Maglione was appointed definitive curator, and the following were returned as delegates of the creditors:—Perelli-Paradisi Antonio, by 42 votes; Alberto Rollier, as representant of W. H. Cole, by 42 votes; Vonwiller, by 39

votes; E. Viglezzi, as representant of the Banca di Milano, by 38 votes; E. Rava, as representant of the Banca Generale, by 36 votes.

The *Oil, Paint, and Drug Reporter* has published the following partial (and, probably, not quite accurate) list of large creditors of the company:—

	Lire
Banca Generale (500,000 secured)	979,000
Banca di Torino (1,000,000 secured)	2,190,000
Demetrio Demarchi	119,000
Antonio Biffi	11,200
Paganini & Villani	150,000
Androssi & Co.	280,000
W. H. Cole & Co., London	1,280,000
London and Hanseatic Bank	263,000
Truringer & Co., London	127,000
Kuhn & Co., London	129,000
Anglo-Foreign Banking Company	504,000
Dutschka & Co., Vienna	444,000
Banca Italiana Lyano	212,000
Perrier Frères	282,000
Société Marseillaise	250,000

THE BRITISH PHARMACOPOEIA.

IN the Section of Pharmacology and Therapeutics, at the annual meeting of the British Medical Association in Belfast, a discussion on the British Pharmacopœia occupied a portion of the first day's meeting of the section. The following report of the discussion is abridged from *The British Medical Journal* of August 23:—

The PRESIDENT, Dr. T. J. Maclagan, in introducing one of the resolutions, said he supposed he was expressing the opinion of every one present when he said that the Pharmacopœia did not quite represent British therapeutics. There were many things used in daily practice which were not in the Pharmacopœia. He did not propose to expunge from the Pharmacopœia anything now in it, because it was never known when use would arise for it.

Professor QUINLAN (Dublin) said there was a long list of medicines which they used every day, and which were dispensed over every druggist's counter, and were yet not in the Pharmacopœia. And there was a longer list of useless drugs, of which they knew the names, but which nobody ever used, but which had a place in it. However, whatever they added, he thought it was better, although he was afraid the unfortunate students would not see it from that point of view, not to expunge any. All must recollect the time when salicin, which was now so much employed, and had created a revolution in the treatment of rheumatic fever, seemed to exist simply for the purpose of adulterating quinine.

Dr. WHITLA (Belfast) wanted some machinery by which the Pharmacopœia could be published piecemeal, so that they could secure for the revision the whole voice of the profession.

Dr. THURSFIELD (Leamington) referred to a very useful little book, called the "Extra Pharmacopœia." It was almost a disgrace that such a book as that should be necessary in connection with a pharmacopœia at all.

Professor HAY (Aberdeen) advocated a supplementary list of substances of a tentative character, and whose therapeutic value had not so far been indisputably established to be framed and authorised by the General Medical Council; and that such substances as had been proved to be of permanent value should be added to each new edition of the British Pharmacopœia, as these were published. They might thus neutralise pretty largely the difficulties in which they felt they were placed at the present time. There were many substances now of very doubtful value, but very largely used by medical men. For example, the tincture of jaborandi, as now prepared, might contain an ounce or five drachms to the pint, according very much to the opinion of the particular pharmacist. Such a substance might be placed on the tentative list and given a definite strength.

Dr. SHOEMAKER (Philadelphia) said he regretted to have to acknowledge that the new American Pharmacopœia was filled with imperfections. He had hoped to find that the

British Pharmacopœia was almost perfect. He did not know any work which had created so much dissatisfaction, on the part of the medical profession in the United States, as their last edition. It had been issued by delegates from the colleges and pharmaceutical societies in different parts of the country. Those gentlemen met at different times, and, after disputing for six months or a year, finally brought out a pharmacopœia that had not met with the approval of the profession throughout the country. The dissatisfaction had been so great, that one of their common Congressmen in the central part of the country had recently introduced a Bill into Congress, providing for the appointment by Government of so many medical men from different parts of the country to prepare and publish, at the expense of the National Government, a pharmacopœia that should be in harmony with both the pharmacists and the medical profession. It was supposed, at the last meeting of the American Medical Association, that this would be the means of bringing out a more perfect national pharmacopœia.

Dr. WALTER SMITH (Dublin) said it was an easy and a cheap thing to find fault, and he would rather desire to express his conviction—and it was based upon some slight knowledge of the Pharmacopœia, as a teacher for fifteen years, and for three years as a professor—that it was, in the main, a very good pharmacopœia; notably so, as compared with the last edition of the French Codex, which was a scandal to modern knowledge. Of course, it could be improved; a pharmacopœia must always be a compromise between the traditions of the past, the knowledge of the present, and the hopes of the future. For these reasons, it was utterly idle to expect a perfect pharmacopœia. Two things, he thought, would contribute greatly to the success of future editions of the British Pharmacopœia. The one was to have a fixed periodical revision of it, and not to leave it alone until the Council was forced to take it up by the voice of the profession; and the next thing, which would prevent many a ridiculous and glaring mistake, would be to have the co-operation of practical pharmacists in the revision.

Dr. LEECH (Manchester) also advocated the frequent revision of the Pharmacopœia.

Dr. WALTER SMITH thereafter moved:

"That this Section of Pharmacology and Therapeutics strongly urge the desirability (1) of periodical revision of the British Pharmacopœia at short intervals; and (2) of obtaining the active co-operation of skilled pharmacists in all future editions."

This resolution, also, was unanimously adopted.

In a subsequent meeting of the section, Professor MATTHEW HAY moved the following resolution:

"That a committee be appointed to consult with the Council of the British Medical Association, or to adopt such other measures as may appear needful, for the purpose of forming a list of drugs and their preparations supplementary to the British Pharmacopœia."

Such an additional list would serve the purpose of presenting in a different form drugs and preparations of drugs, which might have proved themselves, as sometimes happened within almost less than a year, to be worthy of introduction into the Pharmacopœia. It would form a repository for such drugs as salicin until, on the occasion of the next edition, they were placed in the Pharmacopœia. At present, information as to such drugs, and others which were still on their trial, was only to be found scattered throughout journals, and, to a limited extent, in works on the *Materia Medica*, excepting a small work by a non-medical gentleman, Mr. Martindale. The list which he proposed should be issued, and revised annually, by a sufficient number of competent and representative members of our profession, and should contain information with regard to each drug somewhat similar to what was provided in the Pharmacopœia; and should define the modes of preparation and strength of liquid extracts, infusions, tinctures, &c., where such preparations were necessary. The latter point was one of great importance. For instance, jaborandi, a drug of admittedly powerful and useful action, although in general use for several years, had not yet had an opportunity of being added to the Pharmacopœia. If it were wished to prescribe an infusion or a tincture of this drug, it was always necessary, since there was no generally recognised strength for such preparations, to mention the desired strength in the body of the prescription; and this involved the making of a new preparation, to

meet the requirements of each prescriber. The General Medical Council, who were responsible for the editing of the Pharmacopoeia, could not be expected to undertake the issuing of such a list, nor, perhaps, was it desirable. But Dr. Hay thought it was a work which might very well be undertaken by a committee, appointed by an Association so representative of the medical profession of Britain as the British Medical Association. And this was the machinery aimed at in his motion. As to the expense of such an undertaking, he thought it would require no support whatever from the funds of the Association. It ought to prove more than self-supporting.

Dr. QUINLAN (Dublin) seconded the motion, which was carried unanimously.

THE APOTHECARIES' COMPANY.

THE first volume of the report of the Royal Commission on the City of London Livery Companies, which has lately been issued, is a most interesting compilation, and will command considerable attention as well as arouse discussion. We have no intention, at present, of commenting on the political aspect of these wealthy trade guilds, particularly as the drug trade has no direct concern in any of them. The druggists of London, no doubt, have some sort of historical association with the grocers, but in the early part of the seventeenth century, when medicines began to form a trade of their own, this section seceded from the grocers and obtained a separate charter as the Company of Apothecaries. This company, which should be the Guild of Chemists and Druggists, has, no doubt by force of circumstances, departed from the designs of its founders, and has become, instead of a trade company, a medical corporation. It is, however, one of very few companies which is able to justify its existence by serious work in connection with the class which it nominally represents. According to the returns now published the Apothecaries' Company have a corporate income of 3,398*l.* and a trust income of 500*l.* Their old associates the grocers return a total income of 38,236*l.*, while the mercers return 82,758*l.*; the drapers, 78,654*l.*; the goldsmiths, 54,297*l.*; the fishmongers, 50,713*l.*; the clothworkers, 50,458*l.*; the merchant taylors, 43,311*l.*; and so on, down to the basket-makers, with 61*l.* a year, and the playing-card makers, with 50*l.*

The full returns of the companies are not published in this volume, but the following statement sent in by the Apothecaries' Society, and the subsequent oral examination of the master, which we reproduce, are interesting.

Statement.

The SOCIETY OF APOTHECARIES desire to establish before the Commission—

1. That, while faithfully adhering to the terms of the Charter granted to them by James I., they have always been a liberal and progressive body, and have acted and been recognised as such.
2. That their existence therefore is both an advantage and a necessity.

As to 1. The principal objects of the Charter were (1) to protect the citizens of London, and those residing within a radius of seven miles thereof, from illegal practitioners; and (2) to "prove" the purity of drugs within the same radius.—See Returns F. and H., Apothecaries' Company, Part 1, Foundation and Object.

(a.) From their foundation up to 1815 the Society performed the duties of examining persons as to their skill as Apothecaries within the restricted radius, and the persons whose skill was so ascertained necessarily became members of the Society. While after 1815 and up to the present time (with about two exceptions) no one is a member of the

Society who is not an Apothecary, the Society has from that date, under the powers of their first Act of Parliament, become one of the great licensing bodies of this country, examining persons qualified to become Apothecaries throughout England and Wales, and having at the present time a body of licentiates numbering about 9,000 (though of course the condition of membership of the Society is not attached to the licence). The public spirit of the Society in obtaining the Act of 1815, and the good thereby conferred on the community, have always been recognised.

(b.) By means of a body created out of themselves, and allowed to use the name, but placed under the control of the Society, and recently of themselves, the Society have secured to the public the use of pure and unadulterated drugs; they have (so to speak) fixed the standard of purity in such articles, and "Apothecaries Hall" is always referred to by the medical profession as a place where such standard is strictly maintained.

(c.) When their income was even more limited than it is now, and assisted by the private liberality of their then members, the Society leased and maintained the Botanic Garden at Chelsea, which acquired an European reputation, and, by so doing, so excited the admiration of Sir Hans Sloane, the well-known physician (who was the reversioner of that property), that he granted it in perpetuity to the Society on condition of their so maintaining it, as they have done, at great expense to themselves, for the benefit not only of medical men but of the community at large.

(d.) They were the first of the medical bodies to institute an examination in Arts—that is, a preliminary classical, mathematical, and scientific examination, to test the liberal education of candidates seeking to become medical men.

(e.) In 1874 they obtained an amendment of their Act of 1815, and acquired powers to bring their medical examination up to the highest standard.

During the present year they have, immediately on their income admitting it, founded two scholarships in medicine and surgery of the value of 100*l.* each, and also appointed a demonstrator and lecturer in botany.

2. Even if proposed amendments of the Medical Law should take effect, the Society of Apothecaries is and must form part of the medical boards to be established thereunder, as one of the three great licensing bodies of England and Wales, and will have to play its part in reference to the medical education of this country; and of course, if it does not come into operation, the existence of the Society is as essential as ever.

Whether, therefore, as an examining or licensing body, or as a body associated with and accepting practically a responsibility in reference to a standard of purity in the matter of drugs, the existence of the Society is both a necessity and an advantage.

Oral Examination.

The following gentlemen attended as a deputation from the Apothecaries' Society on May 2, 1883:—*Mr. J. Sauer, Master.* and *Mr. J. R. Upton, Clerk.*

3305. (*Chairman—Earl of Derby—to Mr. Sauer.*) You represent the Society of Apothecaries, I understand?—Yes.

3306. You have sent us a statement, upon which you are prepared to answer any questions, I suppose?—Certainly.

3307. That is the object of your coming here to-day, I presume?—Certainly.

3308. No one, I see, can be a member of your Society who is not an apothecary?—No.

3309. And under the powers of your first Act of Parliament you have become one of the licensing bodies examining persons qualified to become apothecaries?—Yes.

3310. That is under the Act of 1815?—Yes.

3311. Was that your first Act?—That was our first Act.

3312. Then you have occupied yourselves a good deal in securing to the public the use of unadulterated drugs, I understand?—Very largely.

3313. You say that you have done that by means of a body created out of yourselves, and allowed to use your name, but placed under your control. What body is that?—The body is defunct now. A certain number of our members were allowed to subscribe and form themselves into a body to carry

on the trade. It was what they called the United Stock, and they carried on the trade until within about three years ago, when, in consequence of a change of business, the trade failed in a measure, and it was all wound up; now the Society carry it on on their own account at the present time.

3314. Then what is your connection with Apothecaries' Hall?—That is the place where we transact all our business affairs entirely. The trade and the court of assistants all meet there.

3315. I see also you state that you were the first of the medical bodies to institute an examination in classics, mathematics, and science to test the liberal education of candidates seeking to become medical men?—Yes; we first instituted that examination ourselves, but now it is very largely followed by all the medical bodies.

3316. You obtained an amendment of your Act of 1815 some years ago?—Yes, in 1874, in order that we could elect a better class of examiners by opening it to all physicians and surgeons as well as to our own body.

3317. And you have founded scholarships in medicine and surgery?—Yes.

3318. And also appointed a lecturer on botany?—Yes.

3319. Then putting it generally, your contention is that your Society have active duties to perform, and are actually performing them to the general satisfaction of the public?—Quite so. I do not know anything that is left undone under our charter or those two Acts of Parliament. I believe every point is rigidly carried out to the letter; and, more than that, we have endeavoured to improve in every way to suit the requirements of the times in which we live.

3320. Are you still the possessors of the Botanic Garden at Chelsea?—Yes, we cannot part with it. We have 5*l.* a year to pay to Lord Cadogan to keep hold of it; that is all.

3321. You are bound to maintain it for its present purpose?—Yes.

3322. (*Mr. Firth.*) The company is now trading in drugs, I understand?—Yes.

3323. Then you are a trading company?—Yes, we are a trading company.

3324. I understood you to say that no one could become a member of your company unless he was an apothecary: was that so?—That is so.

3325. Then have you not your admission by patrimony?—Yes, but the person admitted by patrimony is an apothecary also.

(*Mr. Upton.*) There are two instances to the contrary. Persons could be admitted, but, as a rule, the company have admitted nobody but apothecaries, with two exceptions.

3326. (*To Mr. Saner.*) You laid down the law or rule, as I understand it, stringently, that they must be apothecaries?—Yes, we do so.

3327. According to your charter?—Yes, that is so. We have only two exceptions where they are not apothecaries.

3328. Is your charter different in that respect from that of any other company, so far as you know?—So far as I know, it is.

3329. And I notice that you expend on the Chelsea garden 52*l.* out of an income of 2,414*l.* Is anything else spent in the direction of the trade in any way?—We have a curator who receives 100*l.* a year.

3330. That is included in the 2,414*l.*?—Yes. I was explaining how we spent so much. It is keeping the gardens up altogether. The curator has 100*l.* a year, and so on.

3331. But the rest is spent in keeping the company up, I think, so far as I see. Do you consider your right of search still existing?—Well, I suppose it still exists, but we do not use it, because the apothecaries' shops have so altered.

3332. But you did use it down to the present generation?—Yes.

3333. (*Mr. Alderman Cotton.*) You were originally united with the Barbers' Company, were you not?—The Grocers'.

3334. And they took over the bulk of the properties, I think. When you separated from them you almost had to begin again?—(*Mr. Upton.*) Yes, they were the original company, and we were dissociated from them.

3335. You are a great public benefit, I believe?—(*Mr.*

Saner.) We consider that we have done a great deal of good since 1815.

3336. (*Chairman.*) In any case, there is no mistake about the fact that you do perform certain functions entrusted to you by Act of Parliament?—Certainly; we do a great many.

3337. (*Mr. Pell.*) I see you continue the system of apprenticeship?—Yes, but, unfortunately, we have very few apprentices come up now; the times are so altered now that very few apprentices come to us.

3338. How many have you apprenticed within the last three years?—Well, I suppose not more than eight or ten.

3339. Who are those lads apprenticed to?—To general practitioners always.

3340. Are they supposed to require any knowledge beyond that of mixing drugs and compounding drugs?—Yes, now they do particularly. Formerly, their particular occupation was mixing drugs, because the general practitioners compounded and sent out their own medicines instead of giving prescriptions; but now they do not do that so much.

3341. This is one form of medical education?—Yes.

3342. Is there any advantage in that over the education which a medical man might derive without apprenticeship?—No, I think not. Of course, he is only apprenticed really for the purpose of becoming a member of the company; he is not apprenticed for the purpose of becoming a medical man.

3343. But supposing he was apprenticed to a medical man and he afterwards abandoned that particular line of life, would he then become a member of your company, or could he be admitted?—The question would arise whether he could claim by patrimony.

3344. He would have to fall back on patrimony?—Yes. We took advice some little time ago as to whether anybody could claim admission who was not actually an apothecary.

3345. (*Mr. Alderman Cotton.*) I believe you are celebrated for the sale of genuine drugs?—That has been our pride all along.

3346. And you supply a very large number now?—Yes, to hospitals and dispensaries.

3347. You are most useful in your generation?—That is so; we have prided ourselves upon that all along.

(The deputation withdrew.)

THE MUSK-RAT (*FIBER ZIBETHICUS*).

WE have published (September, 1883) an article by Mr. Cristiani, of Philadelphia, advocating the musk from the musk-rat of America, as "the most valuable substance thus far discovered that can be substituted for the exceedingly costly Tonquin musk." In the *Canadian Pharmaceutical Journal* for July, Mr. E. Gregory, of Lindsay, Ontario, gives some further particulars of this animal, derived partly from his own observation, and partly from conversation with trappers. He writes from the locality of Sturgeon Lake, a sheet of water which by damming has spread over the lowlands on both sides.

This, and kindred localities are favourite haunts of the musk-rat, and here in some pool, amongst the dead and decaying logs, he builds his nest. It is two, and sometimes three feet high, of a roundish conical shape, something like an earthen bowl inverted, and is composed of pieces of stick, weeds, and dried leaves. The inside is commodious, and is warm, comfortable, and soft. There are two apertures, an entrance and an exit, and they are differently built. Both terminate under the water, so that the animal has to dive both in leaving and returning to his nest. The entrance is built as a gradual slope up to the floor of the lodge, so that he can easily run up it, but the exit is a precipitous descent down which he must jump into the water. In this nest he stays all day long, leaving it to search for food in the night or early grey of the morning. In summer he sometimes burrows in the bank. Occasionally a rat more venturesome than his fellows may be seen swimming a stream in broad daylight, but this is not common. The musk-rat is amphibious, and spends a great deal of his time in the water, but commonly has only one method of leaving or returning to the bank. At the edge of every body of water are numerous

fallen trees, the ends of which rest on the bank, and the other extremities under water. He chooses one of these as his pathway, swims to it, runs up to the bank, gets what he needs, and returns down the same log again. This habit is taken advantage of for his destruction. Sometime in the early evening the trapper goes in his canoe with his axe and his traps, and, having discovered by marks best known to himself which log his prey has chosen, he cuts out a chip just below the water's edge, and in its place puts a trap, with two murderous steel jaws, but no teeth, for fear of injuring the fur. Over this trap the poor rat must go both in leaving or returning to the water, and he is thus nearly sure to step into it. These traps are visited night and morning. The fur is the part of the animal desired, and the rest of the carcase is thrown away, as a general rule, but is sometimes eaten. The hunter gets from 8c. to 15c. for each skin, according to the scarcity of the commodity, or the demands of fashion, and many a fine seal-skin set is in reality nothing but dyed muskrat. I said that the carcase was eaten occasionally. This occurs principally in winter, the flesh being out of season in the summer. I have myself eaten it in the latter part of September, but the dish was insipid. With the Indians, however, it forms a constant article of diet at their winter feasts. The musk sacs are placed in pairs, one on each side of the genital organs, and connected by a cord passing in front. They are underneath the external skin. All summer long and far into the fall these sacs are very small, but towards spring they increase in size, and about the months of February and March they attain their largest size and strongest odour. I have indeed been shown some, very small and useless, said to be the product of the female, but other trappers have contradicted this, and so the matter is doubtful. About a year and a half ago, in the latter part of March I obtained from a hunter half a dozen of the recent sacs. They ranged from $\frac{3}{4}$ of an inch to 2 inches in length, by about 1 inch in breadth, were similar in shape to the well-known sacs of beaver-castor, but were of a light colour, somewhat like the white meat of a chicken. They were filled, apparently, with an oily fluid, of a strong musky odour, but which had a putrid smell. Being very busy I hung them in the sunny window of a ware-room to dry, where they were allowed to remain about two months, but though they filled the room with their musky odour, the putrid smell remained, and they never completely dried. At the end of that time they were cut up, and found still to contain an oily fluid, and much membrane, but nothing at all approaching in appearance to grain musk. The putrid smell never left them. Maceration in diluted alcohol extracted the odour and a passable perfume was obtained. But the putrid taint still lingered, and I scarcely consider the experiment a success. Perhaps it would be possible, by a more careful method of drying, to avoid the odour of decay, and if that can be managed, I think a very agreeable perfume can be extracted.

The little animal from which this product is obtained is not truly a rat, nor does it belong to the same family—*Muridae*, but is more nearly allied to the beaver—*Castor fiber*, whilst the musk-rat is *Fiber Zibethicus*. It is much larger than the common rat, and its fur is reddish brown, and quite long. Its tail is round, but slightly flattened at the end, and it is said he steers with it. Its two hind feet are webbed, and its front ones partially so. It lives on the roots and young bark of trees and shrubs, being very fond of the root of the water-lily. It is capable of being tamed. A friend, some years ago, had three or four running about the house like kittens, completely domesticated. Trappers describe them as a very clean animal.

There are three other animals also going by the name of musk-rat, and which might possibly furnish a fragrant musk. These belong to the family of the shrews, and have the upper lip elongated into snout, or short proboscis:—Two species of the Mygale—one a native of the Pyrenees and the other of the south of Russia; and a third called the Sondeli, a native of India, which often utterly spoils provisions through the persistency and strength of its odour.

COOKING CASTOR OIL.—The French method of administering castor oil to children is to pour the oil into a pan over a moderate fire, break an egg into it and stir up. When it is done, flavour with a little salt, or sugar, or currant jelly.—*Medical Times*.

VETERINARY PHARMACY.

The following formulae are quoted from the new French Codex:—

PHYSIC BALLS (*Bols Purgatifs ou Alvetiques*) FOR HORSES.

Aloes, 25 grammes; colocynth, 2 grammes; black soap, q.s.; for one ball.

SOOTHING DRINK (*Breuvage Calmant*).

Asafoetida, camphor, of each 15 grammes; rub in a mortar to powder; make into a paste with water; add water gradually, 1,000 grammes in all; add 15 grammes of ether (0·735).

OPIUM SOOTHING DRINK (*Breuvage Calmant Opacé*).

Sydenham's laudanum, 30 grammes; ether (0·735), 15 grammes; water, 1,000 grammes.

LIQUID BLISTER (*Feu Liquide Ordinaire*).

						Grammes
Essence of lavender	600					
Olive oil	300					
Powdered cantharides	30					
" euphorbium	30					

Digest the powders for two hours in the olive oil, [strain] and add the essence of lavender.

PURGATIVE PILLS FOR DOGS.

						Grammes
Aloes	10					
Colocynth	1½					
Medicinal soap, q.s.						

To make 10 pills. Dose, 1 to 4 pills.

BLISTERING OINTMENT.

						Grammes
Cantharides in coarse powder	600					
Powdered euphorbium	200					
Black pitch and yellow resin, of each	400					
Yellow wax	300					
Olive oil	1,000					

Melt the wax, pitch, and resin at a gentle heat; add the oil, constantly stirring; strain through cloth. Put the cantharides and euphorbium in the vessel and damp with water. Add, little by little, half the resinous mixture, and heat to evaporate the water. Then add the rest of the mixture; heat for a few seconds; withdraw from the fire, and stir well till quite cold.

APPLICATION FOR THE FROG.

Chloride of antimony (solid) and commercial hydrochloric acid sufficient to make a soft paste.

APPLICATION FOR ITCH, SCAB, MANGE.

Liniment.

Benzine, 300 grammes; huile de Cade, coal tar, black soap, and essence of turpentine, of each 100 grammes. Rub the soap and the tar together in a mortar, and add the huile de Cade. When this mixture is perfectly homogeneous, incorporate gradually the turpentine and the benzine.

Lotion.

						Grammes
Trisulphide of sodium, solid	250					
Water	1,000					

Dissolve.

Pomade.

						Grammes
Trisulphide of potassium, dry (liver of sulphur)..	10					
Pure carbonate of potash	2					
Lard	300					

Mix carefully.

Dentistry for Druggists.

(THIRD ARTICLE.)

THE principal muscles engaged in the process of mastication, and by the action of which the jaws are closed, are five in number, viz. the masseter, the buccinator, the external pterygoid, the internal pterygoid, and the temporal muscles. All these muscles act in unison, and combine in effecting a rotatory and grinding motion, by which the food, intermixed with the saliva, is reduced to a pulpy condition.

The dental vascular supply is derived indirectly from the common carotid, directly from the internal maxillary artery. The carotid artery is divided into two branches—the external and internal carotid artery. The first-named branch ascends by the side of the neck, and, passing upwards, is distributed over the surface of one side of the head. It gives off numerous branches, but that with which we are immediately concerned is the internal maxillary artery, which arises from the external carotid, on a level with the opening of the ear. It then runs forward behind the condyle of the jaw and between the heads of the external pterygoid muscle. During its course within the condyloid portion of the jaw it gives off the inferior dental artery, which forms the vascular supply to the teeth in the lower jaw. During its passage between the heads of the external pterygoid muscles it gives off another branch—the superior dental artery, which constitutes the vascular supply to the teeth of the upper jaw. The nervous system is compounded of the brain, the spinal cord with its filaments or nerves, together with the sympathetic system or ganglia. Of the nine pairs of nerves arising from the brain, the fifth pair is that which supplies the teeth. The posterior portion of the fifth nerve (trigeminal or trifacial) is divided into three branches—the ophthalmic, superior maxillary, and inferior maxillary nerves. The branches intimately associated with the teeth are the superior maxillary and a branch of the inferior maxillary, i.e. the inferior dental nerve. These nerves anastomose, or commingle freely with each other, which explains the cause of reflex pain produced in parts remote from the actual seat of diseased action.

The salivary glands are connected with the mucous membrane of the mouth, and, by the ejaculation of their contents, moisten its cavity with the fluid termed saliva. These glands are three. The largest, the parotid, is situated above, in front, and behind the ear, and discharges its contents by Stenon's duct opposite the second molar tooth. At this point it is not uncommon to find a large deposit of calcareous matter, which attaches itself to the teeth. This deposit is salivary calculus, or, as it is commonly called, tartar. The other glands are the sub-maxillary and sub-lingual, and these names will suffice in indicating their position. It may be well to observe that the mucous membrane, the glands above mentioned, the tongue, &c., are often affected by painful disorders, doubtless due to the irritation set up by a diseased condition of the dental organs.

DENTAL CARIES may be defined as a molecular disintegration of tooth-surface, gradually breaking up the tissues, and penetrating towards the centre. In the destructive process set up by caries the enamel and dentine are the tissues first affected, but it is only when the disease extends to the pulp cavity, laying bare the pulp itself, that the cementum becomes implicated; also when recession of the gum is manifested, thereby exposing the cementum to external influences. The chemical change known as caries consists in the removal of the lime-salts from the gelatine, leaving the dentine of a soft consistency, easily cut with a knife, and subsequently the whole tissue breaks up into minute granular particles, which are washed away by the saliva.

Treatment.—The first step in the treatment of caries confined to the enamel and dentine is to remove the diseased and surrounding healthy tissue to such an extent as to produce a perfectly smooth surface. This will prove satisfactory in mere superficial decay without further treatment, and the surface may be well polished and will wear well. When the decay is internal and results in a carious cavity, it will be necessary to cut away the diseased tissue and substitute some indestructible material for the lost part.

In the removal of the diseased and surrounding healthy tissue in order to acquire a perfectly sound and smooth surface, the use of enamel cutters, various suitable files, impalpable pumice powder and chalk, must be brought into requisition and skilfully used.

DISEASES OF THE TOOTH PULP.—Polypus is caused by a chronic inflammation of the pulp. Ultimately, unhealthy granulations are developed upon the surface, which may continue to spread until the growth exceeds the size of the pulp itself, and not uncommonly fills up the cavity formed by the decay of enamel and dentine. This morbid growth is not very sensitive, but bleeds readily and emits a very offensive discharge. *Treatment.*—Carbolic acid (one part to three of glycerine), thymol, and nitrate of silver are said to be the best preservative agents in the treatment of chronic inflammation of the dental pulp, but in severe cases the actual destruction of the pulp itself is necessary, by means of the cautery or the application of a paste composed of arsenic, creosote, and morphia, a formula for which will be found in "Squire's Companion to the Pharmacopœia." N.B.—In no case should the quantity of arsenic exceed one twelfth of a grain. When the exposed pulp has ceased to discharge, the sooner the cavity is plugged the better. This is best effected by capping the affected pulp with non-conducting substance, such as osteoplastic or guttapercha. When no traces of sensitiveness remain this may be removed. If, in spite of this treatment, susceptibility should be prolonged, it will then be best to extract the tooth.

ALVEOLAR ABSCESS is a collection of pus in a sac formed in the sockets of a tooth at the extremity of the root. *Causes.*—Periostitis, which may arise from mechanical injury to a tooth; cold in the presence of dental caries; syphilis; rheumatism; the fumes of phosphorus. *Symptoms.*—Thickening of periosteum; tooth slightly loose and a little longer than its fellows; very tender on mastication and accompanied with redness and swelling of surrounding parts; feverish symptoms present; furred tongue and headache. *Treatment.*—Lance gum freely (this does not always prove effectual). Paint gum with tinct. iod. B.P. If the swelling is not too extensive, the treatment may be cut short by extraction and syringing the cavity with warm water. Small doses of sulphurated potash, tincture of aconite or arnica, and saline aperients, are of great utility. Hot fomentations mitigate the pain.

CYSTS AND DENTIGEROUS CYSTS.—A cyst is an accidental membranous sac containing liquid, semi-liquid, or other morbid matter. A dentigerous cyst is a cyst containing a tooth, supernumerary or otherwise. As a rule dentigerous cysts are found in the upper jaw. *Symptoms.*—A localised enlargement of the bone of slow growth; surface of the tumour is rounded, hard, and smooth. To ascertain definitely the cause of mischief it is sometimes necessary to make a puncture. When the cyst is much expanded fluctuation is present, with a characteristic parchment-like crackle upon pressure. *Treatment.*—Evacuate contents of cyst; extract tooth or teeth embedded; and where expansion is large, remove some of the dilated bone.

EDUCATIONAL INFORMATION.

PHARMACEUTICAL EDUCATION.

GREAT BRITAIN.

PHARMACISTS were in a state of suspense last September when our annual Educational Number was published. The Pharmaceutical Society had prepared for the approval of the Government an elaborate and intricate Bill, which would have transformed the education, examination, and nominal position of British pharmacists. It proposed to compel every would-be pharmacist to pass a Preliminary examination before apprenticeship. He would then have to go through a certain course of study at some recognised school, to be engaged three years in the practice of dispensing, then to pass a written examination, some months later an oral and practical examination, finally emerging from the ordeal with the title of "pharmaceutical chemist." The avowed objects of the Bill were the public good and the improvement of pharmacy. The effects, which may or may not have been designed, would have been to make every chemist eligible for membership of the Pharmaceutical Society, therefore more likely to pay it a guinea a year, and by a sidewind to extend the exemption from jury service to every chemist. It was well known that the Legislature would refuse to extend the latter privilege if the issue were clearly raised.

These ambitions have been cruelly snubbed, and change in the regulations seems further off than ever.

A lad intending to become a chemist and druggist, or pharmacist, must, sooner or later, pass what is called the Preliminary examination, the subjects being Latin, arithmetic, and English. If he has passed an examination in similar subjects conducted by any legally-constituted examining body approved by the Council, he is excused from this ordeal. This examination may be passed before or during or after apprenticeship; there is no limitation as to age; but it must be passed before the candidate presents himself for the Minor. As soon as he passes he is registered as a student or apprentice, without charge. If he chooses he may become a "student or apprentice of the Pharmaceutical Society" on payment of an annual subscription of 10s. 6d. He is under no necessity to do this, though the Calendar of the Pharmaceutical Society is ambiguous, owing to the fact that attention is not called to the distinction between apprentices or students and apprentices or students of the Society.

Immediately after passing the Preliminary examination the candidate may proceed to the Minor examination, provided that he has attained the full age of twenty-one years, and is prepared with a certified declaration. This declaration must be made on a printed form supplied by the Registrar in London. It simply declares that the candidate has for three years been engaged in the translation and dispensing of prescriptions. Another declaration on the same form is to be signed by the candidate's employer or teacher (who must be a pharmaceutical chemist, chemist and druggist, or medical practitioner), to the effect that the candidate has been acting as above under the signer's observation. The interpretation of the phrase "for three years been practically engaged in the translation and dispensing of prescriptions" is left to the candidate and the gentleman who certifies his declaration.

The examination is oral and practical, and includes the following subjects:—Prescriptions, practical dispensing, pharmacy, *materia medica*, botany, and chemistry. The standard of examination is such that nearly half the candidates are rejected at each examination, and the natural and inevitable tendency is that it should be yearly raised. The number of students entirely self-taught is probably now very small, nearly every candidate spending some time at a school of pharmacy. The examination is held either at London or at Edinburgh six times a year. On passing it the candidate acquires the title of "chemist and druggist," and is qualified

to open a business for the sale and dispensing of poisons. Anyone, whether qualified or not, may sell or dispense any drugs not included in the schedules to the Pharmacy Act, only a few of the more dangerous poisons being reserved. The chemist and druggist is also qualified to become an associate of the Pharmaceutical Society, with all the privileges of an apprentice, with this addition, that he has one vote for the election of an annuitant on the Benevolent Fund, or more if he likes to pay for them. So far as pecuniary results go he is now as well off as he is likely to be. He is not eligible for election as a member of the Pharmaceutical Society, or to any office connected with it, nor is he entitled to vote at the election of the Council; but these privileges do not seem to be much in demand, as very few of the newly-qualified chemists and druggists proceed to the higher examination. It was doubtless to meet this disposition, and make all new candidates pharmaceutical chemists, *nolens volens*, that the Pharmacy Act Amendment Bill proposed to alter the qualifying examination, and give the higher title to all who passed it.

Three months after passing the Minor examination the candidate may present himself for the highest, or Major examination. The regulations still demand that he shall be twenty-one years of age, and that he shall declare that he has had three years' practical experience in the reading and dispensing of prescriptions. But they are getting antiquated. It was in 1875 that the age limit for the Minor examination was fixed, and the chemist and druggist under twenty-one years of age who might at one time have presented himself for the Major examination has been improved off the face of the earth by his persistence in remaining on it. It was in 1877 that the fine opportunity for casuistry, "I have for three years been practically engaged in the translation and dispensing of prescriptions," was first presented to the guileless candidate. There are many chemists and druggists who have never had to decide for themselves how many hours' dispensing in a month was implied by practical engagement therein. But there must be few who since then have not been for more than three years in a shop kept open for the dispensing of prescriptions, whether or no prescriptions were brought there to be dispensed. It would simplify the regulations to demand no more than proof of possession of the Minor qualification. Being twenty-one years of age, three months a chemist and druggist, and three years practically engaged in dispensing, the candidate must prepare himself for a rather searching examination, written and practical, in *materia medica*, botany, and chemistry, lasting two days. In the practical part he is provided by the examiners with standard works of reference.

Few men present themselves for this voluntary examination, but the proportion of failures is somewhat smaller than at the compulsory qualifying examination. It gives the successful candidate the right to the title of "pharmaceutical chemist," "pharmaceutist," or "pharmacis," which are strictly reserved for him and his fellows; but it is a question if a Minor man might not assume the title "pharmacien." The pharmaceutical chemist cannot remain an associate of the Pharmaceutical Society, but must either relinquish his connection with it, or become a member, paying a subscription of 17. 1s. a year. He then has all the privileges of an associate, with a right to vote for the election of Council and auditors, and to get himself elected—if he can.

IRELAND.

Pharmacists in Ireland hold a position rather different from that of their British brethren. Before the passing of the Pharmacy Act (Ireland) the dispensing of prescriptions was legally confined to licentiates of the Apothecaries' Hall of Ireland. A class of tradesmen dealing in drugs and dry-salteries existed with the name of chemists and druggists. They did not dispense prescriptions. The Pharmacy Act

created a new class of men legally qualified to dispense prescriptions, but not connected with the Apothecaries' Society. The title of "pharmaceutical chemists" was conferred upon them. The Pharmaceutical Society was entrusted with the administration of the Act, with power to register pharmaceutical chemists, to examine candidates for registration, and to prosecute for offences against the Act. Existing rights were recognised by permitting licentiates of the Apothecaries' Hall to register as pharmaceutical chemists without examination on payment of a fee of 3*l.* 3*s.* The title of "chemist and druggist" was not recognised, nor was any honorary title created. The examinations for the title of "pharmaceutical chemist" are, therefore, the only entrance to the profession of pharmacy in Ireland, only those who secure this title being legally qualified to open a shop for the dispensing of prescriptions. The examinations differ from those of the British Society in important particulars.

Candidates for the Preliminary examination must be sixteen years of age and upwards. They are examined in Latin, English, arithmetic, and the rudiments of chemistry and botany. Certain examinations are accepted in place of this. The fee is 2*l.* 2*s.*, and the examination is held in Dublin four times a year.

Candidates for the pharmaceutical examination must be twenty-one years of age, and must have passed the Preliminary examination at least one year previously. They must have been practically engaged in compounding and dispensing for at least two years, and must have attended a practical course in chemistry at a recognised school. The examination is held four times a year, the subjects being botany, general and pharmaceutical chemistry, including qualitative and volumetric analysis, and practical pharmacy, including dispensing. Candidates for the licence who had not passed their Preliminary examination before January 3, 1883, must have served a *bona-fide* apprenticeship of three years, or have acted as assistant for four years in the sole employ of a pharmaceutical chemist or apothecary.

Below are details of the regulations of the British and Irish Societies.

REGULATIONS OF THE BOARD OF EXAMINERS,

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, FOR THE EXAMINATION AND REGISTRATION OF PHARMACEUTICAL CHEMISTS, CHEMISTS AND DRUGGISTS, AND APPRENTICES OR STUDENTS.

In accordance with the Pharmacy Acts, 15 & 16 Vict. cap. 56; 31 & 32 Vict. cap. 121; and 32 and 33 Vict. cap. 117.

THE FIRST, OR PRELIMINARY, EXAMINATION.*

(For Registration as "Apprentices" or "Students.")

This examination is held at the following centres throughout Great Britain in January, April, July, and October in every year:—Aberdeen, Birmingham, Brighton, Bristol, Cambridge, Canterbury, Cardiff, Carlisle, Carmarthen, Carnarvon, Cheltenham, Darlington, Douglas (Isle of Man), Dundee, Edinburgh, Exeter, Glasgow, Guernsey, Hull, Inverness, Jersey, Lancaster, Leeds, Lincoln, Liverpool, London, Manchester, Newcastle, Northampton, Norwich, Nottingham, Oxford, Peterborough, Sheffield, Shrewsbury, Southampton, Truro, Worcester, York. Candidates must give notice to the Registrar in London, on a printed form of application

* Certificates of having passed any of the examinations enumerated below, *provided Latin, English, and arithmetic be included in the subjects*, are accepted in lieu of this examination. The certificate must be forwarded to the Registrar with the fee of 2*l.* 2*s.* The examinations referred to are the local examinations of all the British Universities, except the junior certificates of the Universities of Aberdeen, Glasgow, and St. Andrew's; Responsions and subsequent examinations at Oxford; Previous examination and others at Cambridge; Registration examination for medical students at University of Durham, Victoria, Edinburgh, Aberdeen, Glasgow, and St. Andrew's; examinations in arts at the same centres, and at Oxford, Cambridge, London, Dublin, Royal (Ireland) and Queen's (Ireland), and Apothecaries' Society of London; the Matriculation examination at the University of London, Royal (Ireland), and Queen's (Ireland); Preliminary examination at the Victoria University, Royal College of Surgeons of England, Royal College of Physicians and Surgeons of Edinburgh, Faculty of Physicians and Surgeons of Glasgow, Royal College of Surgeons in Ireland, Apothecaries' Hall of Ireland, and Incorporated Law Society; the junior students' examination of Owens College; the certificate of the Oxford and Cambridge Schools Examination Board; and first or second class certificate of the College of Preceptors.

The certificate must be approved by the Board of Examiners before the candidate is eligible to enter his name for the Minor examination.

to be obtained from him, and pay the fee, not less than fourteen days before the examination.

The examination is a written one, and comprises:—

Latin.—Grammar, translation of simple sentences from English into Latin; translation into English of a paragraph from Cæsar, "De Bello Gallico," Book I., or Virgil, "Æneid," Book I. In each examination paper a passage from both of the authors will be given, but a candidate will be required to translate one only of such passages.

English.—Grammar, composition.

Arithmetic.—The first four rules, simple and compound, vulgar fractions and decimals, simple and compound proportion, and a thorough knowledge of the British and metrical systems of weights and measures.

In awarding marks, spelling and handwriting are taken into consideration.

In the case of candidates residing in the country and unable to attend in London, the Registrar will send the questions, under seal, to the person appointed to superintend the writing of the answers, with instructions that they be opened by him in the presence of the candidates, who must write the answers forthwith in his presence in a given time. The questions are prepared and reported upon by the College of Preceptors.

MINOR EXAMINATION.

(For Registration under the Pharmacy Act, 1868, as "Chemists and Druggists")

Candidates for this examination must have passed the First, or Preliminary, examination.

The Boards of Examiners in London and Edinburgh meet for conducting the Minor, Modified, and Major examinations in February, April, June (London only), July, October, and December (London only). Candidates must give notice to the Registrar, and pay the fee, on or before the first day of the month in which the examinations are held. A registrar's certificate of birth and a certified declaration (on a form which will be supplied on application) that for three years he has been practically engaged in translating and dispensing prescriptions must be produced by each candidate at the time of giving notice. Secretary and Registrar, in London, Richard Bremridge, 17 Bloomsbury Square, London, W.C. Secretary to the Board in Edinburgh, P. McEwan, 119 George Street, Edinburgh (after October 1 the address will be 38 York Place, Edinburgh).

Candidates must have attained the full age of twenty-one years.

Prescriptions.—The candidate is required to read, without abbreviation, autograph prescriptions, translate them into English, and render a literal as well as an appropriate translation of the directions for use. To detect errors, discover unusual doses, and have a general knowledge of posology; also to render, in good Latin, ordinary prescriptions written in English.

Practical Dispensing.—To weigh, measure, and compound medicines; write the directions in concise language, in a *neat and distinct* hand; to finish and properly direct each package. In awarding marks in this subject the time taken by the candidate in doing the work is taken into account.

Pharmacy.—To recognise the preparations of the Pharmacopeia which are not of a definite chemical nature, and have well-marked physical characters, such as extracts, tinctures, powders, &c.; to give the proportions of the active ingredients, and possess a *practical* knowledge of the processes, and the principles of the processes, by which they are made, and of the best excipients and methods of manipulation for forming emulsions, pills, &c.

Materia Medica.—To recognise specimens of roots, barks, leaves, fruits resins, gums, animal substances, &c., used in medicine; give the botanical and zoological names of the plants, &c., yielding them, and the natural families to which they belong; name the countries and sources from which they are obtained, the officinal preparations into which they enter, and judge the quality and freedom from adulteration or otherwise of the specimens.

Botany.—To recognise the more important indigenous plants used in medicine. To possess a general knowledge of the elementary structure of plants, and the structure and distinctive characters of roots, stems, leaves, and their parts. To name and describe the various parts of the flower.

Chemistry.—To recognise the ordinary chemicals used in medicine. To possess a *practical* knowledge of the processes by which they are produced, the composition of such as are compound, and explain the decompositions that occur in their production and admixture, by equations or diagrams. To determine practically, by means of tests, the presence in solution of the chemicals in common use, and explain the reactions which occur in each case. To possess a general knowledge of the laws of chemical philosophy and a *practical* knowledge of the means of determining specific gravities, densities, and temperature, and of the instruments appertaining thereto and the physical and chemical constitution of the atmosphere.

MAJOR EXAMINATION.

(For Registration as "Pharmaceutical Chemists" under the Pharmacy Act, 1852.)

Candidates for this examination must have passed the Minor examination at least three months previously.

Materia Medica.—This comprises a practical knowledge of the methods of estimating the value of important drugs, of obtaining their active and proximate constituents in a separate state; of identifying them and ascertaining their purity or impurity by tests.

Botany.—This comprises an intimate acquaintance with the parts of the flower, fruit, and seed; the functions and mode of arrangement of the different organs of plants; a knowledge of the general principles of classification, and of the Linnean and De Candolle's systems. The candidate must be able to distinguish practically between each of the following natural orders:—Ranunculaceæ, Papaveraceæ, Cruciferæ, Malvaceæ, Leguminosæ, Rosaceæ, Cucurbitaceæ, Umbelliferae, Composite, Gentianaceæ, Convolvulaceæ, Solanaceæ, Atropaceæ, Labiate, Scrophulariacæ, Polygonaceæ, Euphorbiaceæ, Orchidaceæ, Iridaceæ, Liliaceæ, Melanthiaceæ, Graminaceæ; and refer to their respective orders such specimens as may be shown to him.

Chemistry.—This comprehends an intimate knowledge of the laws of chemical philosophy, practical knowledge of the nature and properties of the elements and their compounds, both organic and inorganic, especially those used in medicine or the arts. The different combinations and decompositions must be explained by equation; also the qualitative analysis of the more important chemicals, e.g., nitrates, chlorides, carbonates, sulphates, phosphates, oxalates, bartrates, &c., and the detection of impurities in them, and the volumetric estimation of the strength of all Pharmacopœia preparations in which standard solutions are ordered to be used.

An elementary knowledge of the properties of light, heat, electricity, and magnetism is also required. In the practical portion of the examination standard works of reference are provided for the use of the candidates.

If a candidate fail to pass either of the examinations, no portion of the fee will be returned, but he will be admitted to a subsequent examination, after an interval of not less than three months and not more than one year, on giving the usual notice and payment of the following reduced fees:—Preliminary examination, 1*l.* 1*s.*; Minor, 2*l.* 2*s.*; Major, 2*l.* 2*s.*

Examination or Registration Fees and Subscriptions to the Society.

FEES.

ANNUAL SUBSCRIPTIONS on becoming connected with the Society.

	£ s. d.	£ s. d.
First or Preliminary (Registered as Apprentices or Students)	2 2 0	{ Eligible, on application to the Council, to be elected Apprentices or Students of the Society
Minor (registered as Chemists and Druggists) 3 3 0	0	0 10 6
Major (Registered as Pharmaceutical Chemists) .. 5 5 0	0	{ Eligible, on application to the Council, to be elected Associates of the Society
		0 10 6
		{ Eligible, on application to the Council, to be elected Members of the Society
		1 1 0
		Or a Life Member's Commutation Fee of
		.21 0 0

Chemists and Druggists in business before August 1, 1868, and registered as such, on being elected Members of the Society, pay an Entrance Fee of £2 2 0 And Subscription for the current year 1 1 0 £3 3 0

Council Examination Prizes.

Pharmaceutical chemists who were associates of the Society at the time of passing the Major examination will be entitled to compete for the following prizes at the end of the session, in the month of July, in which they passed the Major examination.

First Prize.—Pereira medal in silver, and a present of books value 5*l.*, or thereabouts, given by Mr. T. H. Hills.

Second Prize.—The Pharmaceutical Society's medal in silver, and a present of books value 3*l.*, or thereabouts, given by Mr. T. H. Hills.

Third Prize.—The Pharmaceutical Society's medal in bronze, and a present of books value 2*l.*, or thereabouts, given by Mr. T. H. Hills.

Subjects of Examination.—*Materia medica, botany, and chemistry.*

PHARMACEUTICAL SOCIETY OF IRELAND REGULATIONS FOR EXAMINATION OF CANDIDATES FOR THE QUALIFICATION OF PHARMACEUTICAL CHEMIST.

PRELIMINARY EXAMINATION.

Latin.—To translate into English, and parse, one or more sentences from a Latin author:—Caesar's "Commentaries," Book I.; or Virgil's "Æneid," Book I.

English.—To write on a subject selected by the examiner, and to write from dictation.

Arithmetic.—The first four rules, simple proportion, and decimals. To describe the weights and measures of the Pharmacopœia, and of the metric system.

The Rudiments of Chemistry and Botany.—(See Roscoe's "Chemistry"—Science Primers, and Browne's "Botany"—Elementary Science Manuals.)

Candidates presenting themselves for this examination must not be under sixteen years of age.

The fee for this examination will be 2*l.* 2*s.*

In case of rejection, the fee to be retained, but a rejected candidate may present himself for examination after a lapse of six months without additional payment.

The Preliminary examination of the College of Surgeons, Dublin, or such other examination as is accepted by the General Medical Council as equivalent to it, or the Preliminary examination of the Pharmaceutical Society of Great Britain, is accepted in place of this examination, provided it be passed two years before the candidate presents himself for the licence. The usual fee of 2*l.* 2*s.* must be paid.

Preliminary examinations are held on the first Monday of January, April, July, and October.

PHARMACEUTICAL EXAMINATION.

Candidates presenting themselves for this examination must be twenty-one years of age, and have passed the Preliminary examination at least one year previously.

Candidates must also have been practically engaged in compounding and dispensing for at least two years, under the instruction of a pharmaceutical chemist or apothecary keeping open shop, and must produce a certificate of having attended a practical course in chemistry in either Trinity College, Royal College of Surgeons, Carmichael College, the Queen's Colleges of Belfast, Cork, and Galway, Royal College of Science, Cecilia Street, School of Medicine, Dublin, Ledwich School of Medicine and Surgery, Peter Street, Dublin, the Royal College of Science for Ireland, the Working Men's Institute Chemical School, Belfast. The candidate is also recommended to produce a certificate from one of these schools of having attended a course of *materia medica.*

Examinations are held on the first Wednesday of January, April, July, and October.

Botany.—To recognise the principal indigenous plants used in medicine, to refer them to their natural orders, and to give the definitions and the distinctive characters of their several parts.

Materia Medica.—To recognise specimens of the drugs of the Pharmacopœia, to describe their characters and active principles, name the sources from which they are obtained, and the officinal preparations into which they enter; and to detect adulterations.

General and Pharmaceutical Chemistry.—The elementary laws of chemistry and physics, including chemical equations. To recognise the chemical substances of the Pharmacopœia, to describe the processes by which they are obtained; qualitative analysis, including the tests of the Pharmacopœia and volumetric analysis; and to submit to a practical examination in these subjects.

Practical Pharmacy.—To translate Latin prescriptions; to detect dangerous doses; to compound and dispense correctly.

To explain the processes of making the non-chemical preparations of the Pharmacopœia, and to recognise them.

Candidates are to give notice to the Council, fourteen clear days before the stated meetings for examination, of their desire to be examined; and also to lodge a receipt of having paid the fee of 5*l.* 5*s.* into the Bank of Ireland to the credit of the Society.

In case of rejection, the fee will be retained, but a rejected candidate may present himself for re-examination after a lapse of six months without additional payment, and again on payment of the examiner's fees.

FORM OF NOTICE.—"I, _____, desire to be examined for the licence to act as a Pharmaceutical Chemist."

The Registrar, Dublin, will give any additional information required.

Every candidate for the licence who has not passed the Preliminary examination before January 3, 1883, must have served a bond-fide apprenticeship, or have acted as assistant for four years in the sole employ of a pharmaceutical chemist or apothecary.

PHARMACEUTICAL SCHOOLS.

It is now usual for pharmaceutical students to spend some time at one of the pharmaceutical schools mentioned below. Such a course is not compulsory.

THE SCHOOL OF PHARMACY.

17 Bloomsbury Square, W.C.

This school is conducted on the premises of the Pharmaceutical Society, but it is not under the direct control of the Council, nor does the Society derive any profit from the fees paid by students. The Society not only

provides laboratories, lecture-theatre, &c., rent free, but further contributes 100*l.* per annum towards the salary of each of the professors, and offers prizes and medals for competition among the students. The appointment of the professors is also in the hands of the Council.

Application for admission to the school, for prospectuses, or for further information may be made to the professors or their assistants in the lecture-room or laboratories, 17 Bloomsbury Square, London, W.C.

CHEMISTRY AND PHARMACY	Professor REDWOOD, F.C.S., and Mr. WYNNDHAM R. DUNSTAN, F.C.S.
BOTANY AND MATERIA MEDICA	Professor BENTLEY, F.L.S.
PRACTICAL CHEMISTRY	Professor ATTFIELD, F.R.S.
PRACTICAL PHARMACY	Mr. JOSEPH INCE, F.L.S.

The forty-third Session, 1884-85, will commence on October 1, 1884, and terminate on July 31, 1885.

CHEMISTRY AND PHARMACY.

	£ s. d.
One Course	3 3 0
An entire Session (two Courses)	4 4 0
Perpetual Admission	5 5 0
Practical Pharmacy	1 1 0

BOTANY AND MATERIA MEDICA.

	£ s. d.
Botany and Materia Medica, one Course (five months)	2 2 0
An entire Session (two Courses), including Classification of Plants and Practical Botany	3 3 0
Classification of Plants and Practical Botany, separately	1 1 0
Perpetual Admission to all the Courses	4 4 0

PRACTICAL CHEMISTRY.

	£ s. d.
Professor of Practical Chemistry	Dr. JOHN ATTFIELD, F.C.S.
Demonstrator	Mr. F. W. SHORT.
Assistant-Demonstrator	Mr. E. J. EASTES.
Ten months' Course, from 10 to 5, daily	26 5 0
" three hours, daily	17 17 0
And other periods in proportion.	

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

(NORTH BRITISH BRANCH.)

At present located at 119A George Street, Edinburgh; but on and after October 1 the address of the branch will be 36 York Place, Edinburgh; here the Board of Examiners for Scotland will meet on January, April, July, and October.

The Council of the branch have made arrangements under which pharmaceutical students are admitted on special terms to the classes of extra-mural lectures.

Winter Session.—Lectures begin on November 3, and continue until the end of April following.

Chemistry (a course of 100 lectures, including elementary chemical physics, inorganic and organic chemistry).—In Surgeons' Hall, by Dr. Stevenson Macadam, F.C.S., &c.; in Minto House, by Mr. Falconer King, F.C.S., &c.

Materia Medica (including therapeutics).—A course of 50 lectures, in Minto House by Dr. Wm. Craig, and in Surgeons' Hall by Dr. F. W. Moinet.

Summer Session.—Lectures generally begin on the first day of May, and continue until the end of July.

Botany (50 lectures).—In Minto House by Mr. A. N. McAlpine, B.Sc. Another course for pharmaceutical students only is given by Mr. Rakray, M.A., B.Sc.

Materia Medica.—Same as the winter course.

No Chemistry lectures during summer session.

Practical Chemistry.—The laboratories of Dr. Stevenson Macadam and Mr. Falconer King are open throughout the year, so that pharmaceutical men may enter upon a course of instruction at any time. The fees are moderate, and include all apparatus and chemicals.

Further particulars may be had from Mr. Peter MacEwan, Secretary to the Society in Scotland.

THE SOUTH LONDON SCHOOL OF PHARMACY.

325 Kennington Road, S.E.

Director.—Dr. JOHN METER.

Secretary.—Mr. WILLIAM BAXTER.

The course of oral instruction for pharmaceutical students include sixty lectures on elementary and sixty on advanced chemistry and physics; thirty lectures on materia medica, both elementary and advanced; thirty on-botany in each division; fifty on practical pharmacy and dispensing;

and thirty lessons in medical Latin. Compounding fee for all classes: For the junior (minor) division, 14*l.* 14*s.*; for the senior (major) division, 18*l.* 18*s.*; for both, 26*l.* 5*s.* Instruction is also given in scientific subjects required for medical and other examinations, and in all that is necessary to qualify men as public analysts.

WESTMINSTER COLLEGE OF CHEMISTRY AND PHARMACY.

Trinity Square, London, S.E.

Proprietors—Messrs. WILLS & WOOTTON.

The fourteenth session extends from September 1 till July 20.

Three classes of students are received, and lectures are delivered on the following subjects:—Latin, dispensing, pharmacy, botany, materia medica, chemistry, physics. Instruction is also given in analytical and microscopical work, at 2*l.* for twelve months' work.

Fees.—Preliminary course, one month, 2*l.* 2*s.*; three months, 5*l.* 5*s.*; Minor course, one month, 3*l.* 3*s.*; three months, 7*l.* 7*s.*; six months, 10*l.* 10*s.* (After attending this course a student on re-entering is charged 1*l.* 1*s.* a month.) Major course, one month, 3*l.* 3*s.*; three months, 7*l.* 7*s.*; six months, 10*l.* 10*s.* Minor and Major, twelve months, 15*l.* 15*s.* Dispensing, six weeks, 5*s.* Accommodation is provided for resident pupils—terms, 4*l.* 4*s.* per month.

Medals and certificates are awarded at examinations held in April, July, and December in each year.

Evening classes are held for gentlemen engaged during the day. Minor, Tuesdays and Thursdays, 7 till 9 P.M.; Preliminary, Friday, 7 till 9 P.M.

Fees for Evening Classes.—Minor, one month, 10*s.*; three months, 2*l.*; twelve months, 3*l.* 3*s.* Preliminary, one month, 6*s.*; three months, 15*s.*

Postal System.—Fee for Preliminary examination, 10*s.* 6*d.*; for Minor, or Major, 1*l.* 1*s.* Courses of lectures on all the subjects of the examinations are sent through the post from the college, the student returning his last lecture when he receives a new one. Powders for analysis, and other helps, are also sent.

CENTRAL SCHOOL OF CHEMISTRY AND PHARMACY.

173 Marylebone Road, London, N.W.

Lecturer on Chemistry: Mr. A. P. Luff, B.Sc. (Lond.). Lecturer on Botany, Materia Medica, and Chemical Physics: Mr. J. Woodland, F.L.S. Demonstrator of Chemistry and Pharmacy, Mr. J. F. Burnett.

The eighth session began on September 2. The premises have this year been extended. A register of lodgings is kept at the school. There are facilities for practical study of botany and dispensing, as well as laboratory work. Fees for an entire session, 2*l.*; one month, 4*l.* 4*s.*; two months, 7*l.* 7*s.*; three months, 9*l.* 9*s.* For practical dispensing, 10*s.* 6*d.* Further particulars can be obtained by application to either of the lecturers.

SOUTH-WEST LONDON CENTRAL SCHOOL OF CHEMISTRY AND PHARMACY.

Temporary Premises, 183 King's Road, Chelsea, S.W.

Director—Mr. W. H. MARTIN, F.C.S., &c.

Lectures are delivered daily on all the subjects in the pharmaceutical curriculum, also in physics. Fees, 6*s.*, for the junior course of three months; 10*l.* 10*s.* for the senior course of six months; both courses, 13*l.* 13*s.* There are evening classes connected with the Science and Art Department, and the school is carried on at the premises of the Onslow College of Science and Art.

MANCHESTER COLLEGE OF CHEMISTRY AND PHARMACY.

225 Oxford Street, Manchester.

The director, Mr. W. S. Turner, makes a specialty of personal attention to comparatively small classes. He is assisted by Mr. George Clayton. There are separate classes in the afternoon and evening for the Preliminary examination; fees, 1*l.* 1*s.* for one month, and 5*l.* 5*s.* for six months. Three sets of classes for the Minor examination, full time, afternoon and evening; fees for the full-time class, 9*s.* 9*s.*, or 5*l.* 5*s.*, according to period; for either of the others, 5*l.* 5*s.*, or 4*l.* 4*s.*. For the Major examination there is the full-time class; fees, 2*l.* 2*s.* per month; and the evening class, fee, 15*s.* per month.

THE LIVERPOOL SCHOOL OF PHARMACY.

36 Oxford Street, Liverpool.

Principal—MR. JOHN S. WARD.

The curriculum extends over three months, and covers all the subjects of the pharmaceutical examinations. There are separate courses during the day and in the evening. Fees for the day classes, 3*l.* per month; 7*l.* 10*s.* for three months; for the evening classes, 1*l.* per month; 4*l.* 10*s.* for six months. There are evening classes for Preliminary pupils. Fee for a six-months' course, 3*l.* 10*s.* A few resident pupils can be taken.

VICTORIA UNIVERSITY.

OWENS COLLEGE, MANCHESTER,

Has instituted pharmaceutical classes adapted to the requirements of students preparing for the pharmaceutical examinations. The chemistry and botany are taught as part of the usual courses of the college. *Materia medica* and pharmacognosy are taught by Professor D. J. Leech and Mr. W. Elborne, pharmaceutical chemistry, pharmacy, and dispensing, by Mr. W. Elborne. There are day and evening classes. The instruction is divided into two courses—the first including, for the day classes, systematic chemistry and botany. The classes in chemistry are held daily, from 9.30 to 10.30 A.M., from October to March; fee, 5s. 5d. The botany classes daily, except Saturday, from 2.30 to 3.30 P.M., from May 1 to the middle of July; with a laboratory course of five hours weekly, at times to be arranged; fee, 3s. 13s. 6d. The first course evening classes include lectures on the non-metallic elements, by Professor Roscoe, from 8 to 9 P.M., on Mondays, and by Mr. A. Smithells, on the metals, on Fridays, at the same hour; fee for each course, 10s. 6d. Practical chemistry, on Mondays and Fridays, from 6 to 8 P.M.; fee, 4s. 4s. Botany, by Professor W. C. Williamson, ten lectures, on alternate Wednesdays, from 7 to 9 P.M.; fee, 1s. 1s.

The second course, from October to end of March, comprises pharmaceutical chemistry, *materia medica*, pharmacy, and dispensing. The day classes in pharmaceutical chemistry, conducted by Mr. W. Elborne, are held on Monday, Tuesday, and Wednesday in each week, from 9.30 to 10.30 A.M.; they include practical work, fee, 3s. 3s. The *materia medica* class, by Professor D. J. Leech and Mr. W. Elborne, will meet on Thursdays, Fridays, and Saturdays, from 9.30 to 10.30 A.M.; fee, 2s. 2s. Pharmacy and dispensing will be taught by Mr. W. Elborne; fee, 3s. 3s. Laboratory work can be undertaken daily, from 10 to 5, for 9s. 9s. for six months; or any three hours daily, 6s. 6s. for six months.

The evening classes (from October to end of March) in pharmaceutical chemistry meet on Monday and Tuesday, from 7.30 to 9 P.M.; fee, 1s. 1s. 6d. *Materia medica*, on Thursday and Friday, 6 to 7.30 P.M.; fee, 1s. 1s. 6d. Pharmacy and dispensing, on Thursday and Friday, 7.30 to 9 P.M.; fee, 2s. 2s.

EDINBURGH SCHOOL OF PHARMACY AND CHEMISTRY.

Marshall Street, Nicolson Square, Edinburgh.

There are three sessions in the year, commencing in January, May, and October, lasting three months each. Besides the usual day classes, there are evening classes for gentlemen engaged in business during the day. A dispensary is attached to the school, in which the students are instructed in practical pharmacy and dispensing.

Materia medica and pharmacy are taken by Mr. R. Urquhart; chemistry, by Mr. C. H. Stewart, B.Sc.; botany, by Mr. J. A. Thomson, M.A.

Fees for the Session (Three Months).—*Materia medica*, 2s. 2s.; chemistry, 2s. 2s.; botany, 1s. 1s.; practical chemistry, 2s. 2s.; botany, 1s. 1s.; composition fee for a second season, 5s. 5s.

The Pattison Scholarship.—The holder is entitled to free instruction in all the branches taught in the Pharmaceutical Section of the school. It is awarded by competitive examination twice yearly. Candidates are required to produce their apprenticeship indentures duly discharged, and must have passed the Preliminary examination. Successful candidates, when their scholarship expires, must present themselves for the Minor examination. The subjects of the scholarship examination are pharmacy, *materia medica*, and the elements of chemistry. The next examination will be held on October 1.

All information will be supplied by the secretary, Dr. Urquhart.

EDINBURGH PHARMACEUTICAL CLASSES,

41 Chambers Street, Edinburgh.

Day and evening classes in chemistry, botany, and *materia medica*.

Tutors.—Dr. Drinkwater, F.C.S., Dr. J. Macfarlane, Mr. Rattray, M.A., B.Sc., &c.

Laboratory accommodation for forty students.

Correspondence classes in all the subjects for Minor and Major.

Fees.—Day classes, 2s. 2s. per subject per session; evening classes, 1s. 1s. per subject per session; evening practical chemistry, 2s. 2s.

Particulars from Dr. Drinkwater, Chemical Laboratory, 41 Chambers Street, Edinburgh.

TULLY'S POSTAL SYSTEM.

Mr. JOHN TULLY, chemist, Tunbridge Wells, "Hill's Prizeman," established his postal system in 1872. It is divided into three classes. No. 1 is for the Preliminary, including all the subjects of the syllabus. If the student fail on first presenting himself, he is instructed for the next examination free of charge, providing he passes it within six months; fee 10s. 6d. No. 2 is for the Minor examination, for students under twenty years

of age. It is intended to give direction to the studies, and to prevent the formation of an inattentive habit of reading. It includes fortnightly examination papers, and lectures which cover all the ground for the Minor and Major. Students can commence at any time. The fee is 17s. No. 3 is for the Minor, for students over twenty, and includes a full series of lectures. Fee, 17s. 1s., payable in advance. A special course is organised for the Modified and Apothecaries' Hall examinations.

JAPAN.

According to the 6th notification of the 15th year of Meiji (1882) there are two classes of pharmaceutical schools in Japan—the first designed for the regular training of pharmacists by giving them instruction in the general course of pharmacy, and the second designed for the speedy training of pharmacists by giving them instruction in an easy course of pharmacy.

In the first class the school course extends to three years, in each of which thirty-two weeks must be given to study, the hours of instruction being twenty-four in each week. The subjects of instruction must be at least physics, chemistry, zoology, botany, mineralogy, medical botany, analytical chemistry, pharmacognosia, pharmaceutical chemistry, toxicology, examination of medicaments, and the art of prescription, with either English, French, or German. Candidates must be eighteen years of age, with good health and morals. They must be "graduates of the lower grade of the middle-school course," or at least have the same standard of attainments in respect of the following subjects—Japanese and Chinese literature, arithmetic, geography, and physics. At least two of the teachers in the schools must have received the diploma of Seiyakushi in the University of Tokio, or be employed with the approval of the Minister of Education.

In the second class candidates must be sixteen years of age, of good health and morals, and must have had a certain degree of education in reading and arithmetic. One teacher in each school should be a graduate in pharmacy of the University of Tokio since 1883. The course of study lasts two years, but may be extended by not more than a year, while the subjects of study are the same as in the first class, omitting zoology, mineralogy, medical botany, analytical chemistry, and toxicology, and the European language.

APOTHECARIES' ASSISTANTS' EXAMINATIONS.

Pharmaceutical students occasionally hear the Apothecaries' Society's examinations spoken of. The following details may be of interest:—

By sections 17 and 20 of the Apothecaries' Act of 1815 a penalty of 5s. is imposed on any person who acts as an assistant to any apothecary to compound and dispense medicines without having obtained a certificate of fitness and qualification from the Court of Examiners. By section 19 of the Act the fee for the assistants' certificate is fixed at 2s. 2s.

The only privilege conferred by the certificate is the power to act as assistant to apothecaries.

The following are the regulations of the Court of Examiners relating to assistants:—The Court of Examiners meet in the hall every Thursday, where candidates are required to attend at a quarter before five o'clock.

Every candidate intending to offer himself for examination must give seven days' notice previous to the day of examination, and must, at the same time, deposit the fee, 2s. 2s., at the office of the beadle, where attendance is given every day, except Sunday, from ten to four o'clock; Saturdays, ten to two.

The examination of candidates for certificates of qualification to act as assistant, in compounding and dispensing medicines, will be as follows:—In translating physicians' prescriptions, in the British Pharmacopoeia, in pharmacy, pharmaceutical chemistry, *materia medica*, and medical botany.

By the 22nd section of the Act of Parliament no rejected candidate can be re-examined as an assistant until the expiration of the three months.

In 1880 the following additional regulations were promulgated for the subject of botany:—

Candidates will be expected to display a competent knowledge of structural and physiological botany, such as may be obtained from lectures and from any elementary work.

They will be expected to describe and identify typical specimens, and to give the distinguishing characters of the following natural orders, viz.:—*Compositæ*, *Couvolvulaceæ*, *Cruciferæ*, *Cucurbitaceæ*, *Filiaceæ*, *Geutianaceæ*, *Graminaceæ*, *Labiateæ*, *Léguminosæ*, *Liliaceæ*, *Melanthiaceæ*, *Papaveraceæ*, *Ranunculaceæ*, *Rosaceæ*, *Rutaceæ*, *Serophulariaceæ*, *Solanaceæ*, *Umbelliferae*.

MEDICAL EDUCATION.

Like all "gentle" occupations, and, for that matter, vulgar occupations as well, the medical profession is now said to be much overcrowded. Of course, this means that second-rate or third-rate craftsmen, whatever be their craft, do not find it easy to get first-class pay. "There is always room at the top" is true of all professions, and the

one thing that is most essential in the career of any one is the choice of the avocation in which success is most likely to be secured. Calling or avocation rightly indicates the safest guide in this momentous decision. "Don't be a preacher if you can help it," said a wise old minister to a fluent young fellow who asked his advice. We offer it to all concerned. Unless there is an overwhelming desire to practise medicine for its own sake, the life devoted to it is sure to be to some extent wasted. The social advantages, the "gentility" of the profession, will be no recompense for the laborious days and weary nights, the squalor of the patients, and the repulsive duties that have to be faced with more or less cheerfulness. The successful doctor is the man who finds fresh interest in every patient, who gloats over a pathological specimen, who sits up all night with his note-book and a case, and bribes the night porter to ring him up from his lodgings close to the hospital whenever a fracture comes in. He loves it for its own sake, and will never discover that the medical profession entails any hardship. Another useful—indeed, invaluable—type is the doctor whose sympathy with suffering and desire to relieve it take the place of scientific enthusiasm. Cases interest him because the disease cannot be separated from the individual. The joy of relieving pain and restoring the breadwinner to health is keen enough to be a constant reward. Men of these types always find room; while they are seeking something else, their daily bread and raiment, and even some added glory, come to them without anxious thought.

When the responsibilities of a doctor's position are fairly considered, anyone not called to the profession will have little wish to shoulder them. First of all come at least three years of close, persistent study, interlarded with numerous examinations. The mass of detailed knowledge to be assimilated would be appalling if the student could get any adequate idea of it beforehand. This is but the beginning of his studies. On every side there are complaints that the curriculum is defective and inadequate to the task of fitting a man for the practice of the profession. The most earnest student finds that he has but touched the fringe of any of his many subjects, and the first year of professional life shows him that his hospital experience is little help with the chronic and minor ailments which come oftenest under his care.

When the final examination is passed, perhaps after more than one disappointing failure, the new-fledged doctor has years of uphill work before he can get established. He may buy a practice or, if he has not the capital, wait for one, all the while precluded by professional etiquette from any attempt to make himself known. This latter process is a long and weary one. Doctors are the shortest lived of the professional classes, they being much the most exposed to hardship.

If a lad or girl is determined to become a doctor the school education should be shaped with some regard to the Preliminary examination. In general education, it is desirable that he should pass the Matriculation examination of the university of London. This is the best, and franks all others. There are many other examinations, to be mentioned later on, which are accepted in place of it.

Having passed his Preliminary examination he should be entered as a student at one of the hospital medical schools. He cannot proceed to his final examination till he is twenty-one years of age. He is bound to spend something over three years, and more generally four years, in study at the hospitals, and unless he is abler than the majority of students he will require a longer period to fit him for the examinations. The latter are growing more and more severe and practical. It is said that only a tenth of the students now obtain their qualification within the four years. This being the case it is worth while to consider the advantage of entering the student for "perpetual admission" to the hospital lectures. The fee for this is only a trifle higher than is required for the minimum legal course, and much less than would be paid for extra sessions when failure to pass in the required time has made them necessary.

There are nineteen "portals" in the United Kingdom through which the candidate can enter the medical profession. It is very necessary to decide which shall be the chosen entrance, as the requirements of the examining boards differ considerably. Those who aim at the highest distinction will endeavour to obtain the degrees in medicine of the London

University, or the qualifications of the Royal Colleges of Physicians and Surgeons of London. A degree from either of the other universities perhaps stands next; less ambitious English students content themselves with membership of the Royal College of Surgeons and the licence of the Society of Apothecaries.

In Scotland most of the practitioners are connected with one of the four universities. These demand medical as well as surgical knowledge, and their diplomas are accepted as a double qualification by Government. In Ireland over half the practitioners have obtained their qualifications from the Dublin Colleges of Physicians and Surgeons. Next follow, in order of popularity, Queen's University, the Edinburgh Colleges of Physicians and Surgeons, and Dublin University.

The examination for the licence of the Society of Apothecaries (L.S.A.) is the easiest, but while especially severe in chemistry, it is deficient in anatomy. The Durham University is reluctant to grant a licence to practise as distinct from its degrees, and the Medical School at Oxford is almost defunct. In England barely one in twenty of the qualifications obtained is a university degree. In Scotland the Royal College of Physicians of Edinburgh unites with the Royal College of Surgeons to grant licences in medicine and surgery after passing one examination, and the Royal College of Surgeons of Glasgow combines with the Faculty of Physicians and Surgeons for the same purpose, the latter being so popular that many Irish students come over to acquire it. Each of these bodies grants a separate licence. In Ireland the licence of the Apothecaries' Hall (fee 10s., special subject *materia medica*) is held by two-fifths of the medical practitioners; about the same number are connected with the Royal College of Surgeons of Ireland; next in popularity come the Royal College of Physicians, Dublin University, and Queen's University. From the evidence given before the Royal Commission on the Medical Acts, we are able to give definite particulars concerning the cost of medical education in Ireland. A person desiring to obtain the M.B. and M.Cb. degrees of the University of Dublin will have to attend thirteen courses of lectures, occupying at least three years in medical study. It will cost him £136. for his medical and surgical qualifications, besides £37. for the arts qualification, which is necessary to his obtaining these as a university student, making a gross total of £219. The lectures are £17., the hospital £44., and the degree fees £31.; that makes £136. If the same student desires to obtain the same degrees in the Queen's University he can obtain them upon lectures which may be put in in two years at an expense of £17., less than half the expense of even the medical portion of his education in Dublin University, and one year less in the way of curriculum. If he desires he can obtain qualifications at the Apothecaries' Hall, with twelve courses of lectures, for £73.; but if he wishes to obtain the Dublin double diploma, that is, the licence of the College of Surgeons and the College of Physicians, it will cost him in three years £157. So that the expense of obtaining degrees varies in Ireland from £17. to £157.; and the length of the curriculum varies from two to four years.

Useful information as to the different careers open to a medical man is given in Dr. Driver's little book, "What shall be my Practice?"

When the Medical Act Amendment Bill becomes law, the diversity of requirements will, to a large extent, be abolished. There will be a considerable levelling up, and though the universities will still continue to grant their degrees, the licence to practise medicine will probably be conferred by a single body in each of the three kingdoms.

Below we give particulars of the requirements of the different examining bodies.

PRELIMINARY EDUCATION.

The recommendations of the General Medical Council, as far as relate to the Preliminary examination, and at present in force, are as follows:—No student should be admitted to his final examination till forty-five months have elapsed since his registration. No student can be registered before he has passed an examination conducted by one of a certain number of educational bodies in the following subjects:—

(1) English language, including grammar and composition; *
 (2) English history; (3) modern geography; (4) Latin, including translation from the original and grammar; (5) elements of mathematics, comprising (a) arithmetic, including vulgar and decimal fractions; (b) algebra, including simple equations; (c) geometry, including the first two books of Euclid, or the subjects thereof; (6) elementary mechanics of solids and fluids, comprising the elements of statics, dynamics, and hydrostatics; † (7) one of the following optional subjects:—(a) Greek; (b) French; (c) German; (d) Italian; (e) any other modern language; (f) logic; (g) botany; (h) elementary chemistry.

Medical training generally begins at the age of seventeen. It is advisable that before leaving school the student should pass one of the examinations now to be mentioned:—

Oxford, Cambridge, and Durham.—Local examinations: Senior, including Latin and mathematics, or Junior, including Latin and mathematics, and one of the following optional subjects:—Greek, French, German, natural philosophy (including mechanics, hydrostatics, and pneumatics).

London (Matriculation Examination), Edinburgh, Aberdeen, Glasgow, and St. Andrew's.—Honours or Senior certificates granted under local examinations (to include English literature, arithmetic, algebra, geometry, Latin, and one of the following optional subjects:—Greek, French, German, natural philosophy).

Queen's University (Ireland).—Local examinations for men and women. Certificates to include all the subjects previously mentioned.

Royal College of Preceptors.—First-class certificate.

A degree in arts from any British, and nearly any colonial, University is accepted in place of these examinations. Oxford Responsions and Moderations, and Cambridge Previous examination, and their equivalents at other Universities, are also accepted.

If neither of these has been undertaken, the student must pass one of the entrance examinations held by the medical licensing bodies.

Durham University.—Registration examination for medical students. Subjects—Rudiments of religion, literature, and science.

Aberdeen, Edinburgh, Glasgow, and St. Andrew's Universities.—Preliminary examination for graduation in medicine or surgery. Subjects—English, Latin, arithmetic, elementary mathematics and mechanics, and two, at least, of the following:—Greek, French, German, higher mathematics, natural philosophy, natural history, logic, moral philosophy. For further information apply to the secretaries of the Universities.

Society of Apothecaries, Blackfriars, London, E.C.—Held on the last Friday and Saturday in January and April, and the third in September. A form of application must be obtained and signed. Fee, 1*l*. 1*s*., to be paid at least a week before the examination. For further information apply to the beadle.

Royal College of Physicians and Royal College of Surgeons, Edinburgh.—English grammar and composition, arithmetic to decimals, algebra to simple equations, Euclid, books I. and II., Latin, and one of the following:—Greek, French, German, natural philosophy. Fee, 10*s*., to be paid not less than two days before the examination. For dates of examination, &c., apply to the officers of the Colleges.

Faculty of Physicians and Surgeons of Glasgow.—Preliminary examination, much like the above. Held in April, July, September, and October. For further information, apply to the clerk.

Apothecaries' Hall of Ireland.—English grammar, composition, and history, arithmetic, algebra to simple equations, Euclid, books I. and II., Latin, Livy, or Virgil's "Aeneid," first two books, Greek, Xenophon's "Anabasis" or Homer's "Iliad," book I., French or German, and either of the following:—Natural philosophy and natural history. Held on the third Thursday in January, April, July, and October. Apply to the secretary.

Royal College of Surgeons of Ireland.—Apply to the Registrar. The two last-named examinations are about to be abandoned.

* The General Medical Council will not consider any examination in the English language sufficient that does not fully test the ability of the candidate:—(1) To write sentences in correct English on a given theme, attention being paid to spelling and punctuation as well as to composition; (2) to write correctly from dictation; (3) to explain the grammatical construction of sentences; (4) to point out the grammatical errors in sentences ungrammatically composed, and to explain their nature; and (5) to give the derivation and definition of English words in common use.

† This subject may be passed either as preliminary, or before, or at the first professional examination.

PROFESSIONAL EDUCATION

M.B. Degree	Age at Examination	Preliminary Requirements	Duration of Study (a)		No. of Examinations	Fees £ s.
			Total	At own School or Residence		
London ..	21	Matriculation or arts degree and preliminary scientific examinations	4 years	—	2	10 0
Cambridge ..	(b)	"Previous (c) examination"	5 years	—	3	5+?
Oxford ..	(b)	B.A. (c)	4 years	—	2	—
Durham ..	21	Examination in arts	4 years	1 year Newcastle 2	2	17 5
Edinburgh ..	21	Degree in arts or preliminary with additions	4 years	—	3	15 15
Glasgow ..						
Aberdeen ..						
St. Andrew's ..						
Dublin ..	(b)	B.A. and "previous medical"	4 years	3 courses	—	16 0
Victoria ..	21	Matriculation and entrance	4 years	2 years	3	9 9

M.D. Degree	Age at Examination	Preliminary Requirements	(a) Duration of		Examinations or Thesis	Fees £ s.
			Study	Practice		
London ..	—	M.B. } or 1 + or —	2	3 5	{ Examination	5 0
Cambridge ..	—	M.B. or M.A. }	5 years	3 years or 9 terms	Essay	—
Oxford ..	—	M.B.	—	3 years	3 examinations and essay	—
Durham ..	24	M.B.	—	2 years	Dissertation	—
Or ..	40	Registration as practitioner	—	15 years	Essay Examination	6 0
Edinburgh ..						
Glasgow ..						
Aberdeen ..	24	M.B.	—	2 years	Thesis	52 10
St. Andrew's ..						
(d) Dublin (Trinity College)	—	M.B.	—	3 years	"Exercise"	15 5
Queen's University, Ireland ..	—	Entrance examination in arts	4	—	3 examinations	13 0
Victoria University ..	22	M.B.	1	—	Printed Dis'tion	5 0

Surgical Degrees	Age at Graduation	Preliminary Requirements	Duration of		Examinations	Fees £ s.
			Stndy	Practice		
B.S. London ..	—	M.B.	1 course	—	1	5
M.S. London ..	—	B.S.	2 years, or	5 years	1	5
M.S. Cambridge ..	—	M.B.	3 years	—	1	—
M.S. Durham ..	—	M.B.	1 course	—	1	—
C.M. Edinburgh Glasgow	21	Degree in arts, or preliminary with additions	4 years	—	3	—
			2 in Edinburgh			
B.S. Dublin ..	—	B.A. and M.B.	4 years	—	1	10
M.S. Dublin ..	—	B.S.	—	3 years	1	11
M.Ch. Queen's University	—	Entrance examination in arts	4 years	—	—	—
Victoria University ..	22	M.B.	1 year	—	1	12

Other Licences to Practise	Age at Examination	Preliminary Requirements	Duration of		Number of Examinations	Fees	STATE MEDICINE OR PUBLIC HEALTH.				
			Study	At a Special School			Certificates or Degrees.				
							Examining Body and Degrees	Age	Preliminary Requirements	Number of Examinations	Fees
University of Durham— Licence in medicine and licence in surgery	Regis-trat'n	4 years	—	1	2	5 0	University of Cambridge, certificate ..	24	Licence to practise	2	£ 8 8
University of Dublin— Licentiate in medicine or surgery	(b)	2 years of "arts" studies	4 years	3 courses	—	10 0	University of London, certificate	22	M.B. 1 year	1	5 0
Royal College of Physicians, London— Licentiate	21	Preliminary Degree in arts	45 months	—	3	15 15	University of Durham, certificate	—	Licence to practise	1	5 5
Member	25	5 years	—	—	3	31 0	University of Edinburgh, B.Sc. in Public Health .. D.Sc. ditto ..	—	Degree in medicine	2	10 10
Royal College of Surgeons— Licentiates ..	21	Preliminary Degree in arts and L.R.C.S.	4 years	—	2	9 9	—	B.Sc. P.H.	Thesis	5 5	Two courses at the University compulsory
Members	21	M.R.C.S.	6 years	—	2	22 0	University of Glasgow....	—	Licence to practise	2	8 8
Fellows	25	6 years	—	—	2	31 10	Royal College Physicians, Edinburgh, certificate ..	—	Qualification in medicine	2	10 10
Royal College of Physicians, Edinburgh— Licentiate	21	Preliminary	6 years	—	2	15 15	University of Dublin	—	M.D.	1	—
Member	24	L.R.C.P.	—	—	—	21 0					
Fellow	25	M.R.C.P.	—	—	—	31 10 & 25. stamp					

Other Licences to Practise	Age at Examination	Preliminary Requirements	Duration of Study	No. of Examinations	Fees
Royal College of Surgeons, Edinburgh— Member ..	21	Preliminary	45 months	2	15 15
Faculty of Physicians and Surgeons, Glasgow (e)	21	Preliminary	45 months	2	15 15
King's and Queen's College of Physicians in Ireland— Licence ..	—	Preliminary	4 years	2	16 16
Membership..	25	Licentiate	—	—	21 0
Royal College of Surgeons, Ireland— Licenciate ..	—	Preliminary, including Greek B.A.	4 years	2	27 6
Fellowship ..	25		6 years	1 (with thesis)	36 15 (unless licentiate)
Apothecaries' Hall of Ireland— Licence for medicine & pharmacy	21	Preliminary	4 years, 1 practical Pharmacy	2	—

(a) In each case the duration of study is to be taken as additional to the preliminary requirements.

(b) Twenty-one is the lowest age accepted by the General Medical Council, but not definitely fixed by the university.

(c) The student must reside three years at the university.

(d) The University of St. Andrew's grants degrees of Doctor of Medicine to practitioners forty or more years of age, under special regulations.

(e) A conjoint examination for a double diploma is held by the Royal College of Physicians, Edinburgh, and the Faculty of Physicians and Surgeons of Glasgow.

NOTE.—Royal College of Surgeons and Royal College of Physicians, Edinburgh, hold a joint examination in medicine and surgery. Successful candidates receive the diplomas of L.R.C.P.E. and L.R.C.S.E.—a double qualification, which is registrable under the Medical Act.

MEDICAL SCHOOLS.

BRILLIANT students will do better at a large school than at a small one. Men of ordinary talents are more likely to acquire a sound knowledge of their profession at a small school, where they come more in contact with the teachers, and the teachers have more inducement to endeavour to extend their school. It is also of great advantage to a student to acquire his education at two different schools—the more different the better. Considerations of locality and convenience generally decide the choice. The cost of a complete education at the London hospitals varies very considerably.

Further information concerning many of the schools will be found in our advertisement pages.

THE WEST LONDON HOSPITAL, HAMMERSMITH,

Now provides a very useful course of intermediate instruction, intended to supply on a large scale the advantages of pupilage at a first-class provincial infirmary or county hospital. Instruction is given in natural science and in the rudiments of medical and surgical subjects, so that the student is prepared to take an intelligent interest in hospital practice. The authorities wish to give commencing medical students an early insight into medical work, so that they may, without needless loss of time or money, be able to judge whether or not they have chosen the right profession.

The scheme of instruction for the year includes materia medica and pharmacy, osteology, physics, chemistry, and botany, which are taught thoroughly; and elementary medicine, elementary surgery, and elementary physiology and histology. The fee for the complete course, including one year's hospital practice, is 26*l.* 5*s.*

St. Bartholomew's Hospital, West Smithfield, E.C.—710 beds. Fees for perpetual attendance on lectures and hospital practice, 13*l.* 10*s.* or 13*l.* 6*s.* in advance; for dental students, 6*l.* 3*s.*

Charing Cross Hospital.—180 beds. Fees for matriculated students (students who enter for their whole course at the hospital), 9*l.* 15*s.* in five instalments; for dental students, 2*l.* 2*s.* Matriculated students enjoy special advantages.

St. George's Hospital, Hyde Park Corner, S.W.—351 beds. Fee for the whole course, 12*l.* in advance; for dental students, 5*l.*

Guy's Hospital, St. Thomas's Street, Borough, S.E.—695 beds. Fee, 13*l.* 5*s.* in advance; for dental course, 6*l.* 3*s.*

King's College, Strand, W.C.—170 beds in hospital. Fee, 12*l.* 11*s.* 6*d.* in advance.

London Hospital, Mile End, E.—800 beds. Fees, 94*l.* 10*s.* in advance; dental course, 42*s.*

St. Mary's Hospital, Cambridge Place, Paddington, W.—190 beds. Fee, 106*l.* in advance; for dental students, 65*l.* 12*s.* 6*d.*

Middlesex Hospital, Berners Street, W.—300 beds. Fee, 94*l.* 10*s.*; for dental surgery, 42*s.*

St. Thomas's Hospital, Albert Embankment, Westminster Bridge.—572 beds. Fee, 125*l.*; for dental students, 55*l.*; dental practice, 3*l.* 3*s.*

University College Hospital, Gower Street, W.C.—Fee, 13*l.* 5*s.*

Westminster Hospital.—215 beds. Fee, 100*l.*; for dental students, 50*s.*

London School of Medicine for Women, Henrietta Street, Brunswick Square.—Established to provide complete medical education for women. Its classes are recognised by the University of London and the King and Queen's College of Physicians of Ireland. Fee for lectures, 80*s.*; for hospital practice, 20*l.* the first year, 15*l.* each succeeding year, or 45*s.* in advance.

Queen's College, Birmingham. Faculty of Medicine.—Composition fee, 100*l.* Students are admitted to two hospitals with 400 beds. There is a dental school here.

Bristol Medical School: Affiliated to University College, Bristol.—Composition fee, 63*l.* for the college, and for hospital medical and surgical practice, 36*l.* 15*s.* The Bristol Royal Infirmary contains 264, and the General Hospital 154, beds.

Leeds School of Medicine (now affiliated to the Yorkshire College).—Composition fee, for lectures, 50*l.* 8*s.*; for medical and surgical practice at the Leeds General Infirmary (300 beds), perpetual, 42*s.*

University College, Liverpool, Medical Department, formerly the Royal Infirmary School of Medicine.—300 beds. The perpetual hospital fee is 42*s.*; the composition fee for lectures is 63*l.* Extras, about 10*l.* 10*s.*

Owens College, Manchester.—College composition fee, 63*l.*; hospital fee (Manchester Royal Infirmary), 42*l.*; 500 beds.

Sheffield School of Medicine.—Perpetual fee for lectures, 45*l.* Hospital practice may be attended either at the General Infirmary (180 beds), or the Public Hospital and Dispensary (110 beds). Perpetual fee in each case, 36*l.* 15*s.*

Dr. Steeven's Hospital and Medical College, Dublin.—The hospital contains 250 beds. Composition fee for the medical school, 56*l.* 3*s.* 6*d.*; fee for hospital, 12*l.* 12*s.* for nine months.

Catholic University of Ireland. School of Medicine, Cecilia Street, Dame Street, Dublin.—Perpetual fee for lectures, 56*l.* 17*s.* 6*d.*

New Carmichael College of Medicine and Surgery, Aungier Street, Dublin.—For particulars apply to the Registrar, Dr. Harvey, 7 Upper Merrion Street, Dublin.

Carmichael College of Medicine and Surgery, Aungier Street, Dublin.—This is connected with the following hospitals:—The Adelaide, City of Dublin, Cork Street (Fever), House of Industry, Meath, and Mercer's. Fee for the full course of lectures for the Royal College of Surgeons, Ireland, 58*l.* 5*s.* 6*d.*

Queen's College, Belfast. Faculty of Medicine.—Fees according to the classes attended—generally 2*l.* a class. Hospital practice must be obtained outside the college. Two scholarships of 24*l.* are awarded to first year's medical students.

Queen's College, Galway. Faculty of Medicine.—Minimum fee for the degree of M.D., 39*l.* 5*s.* Hospital practice must be obtained elsewhere.

College of Medicine, Newcastle-on-Tyne.—Composition fee for lectures, 63*l.*; hospital practice, 26*l.* 5*s.*

Queen's College, Cork.—Fees for lectures and hospital practice, about 47*l.*

Anderson's College, Glasgow.—Fees for all lectures and hospital practice (at the Glasgow Royal Infirmary, 570 beds), 48*l.*

School of Medicine, Edinburgh.—Fee for study required for a double qualification, 95*l.*, including fee for examination.

University of Glasgow Medical School.—Total minimum expenses for M.B. and C.M., 90*l.*

THE DENTAL PROFESSION.

THE Dentists Act, 1878, provides that only persons who are registered under the Act shall be allowed to call themselves dentists, or in any way to lead the public to suppose that they are registered dentists, or to recover fees for dental operations in the legal courts, under a penalty of 20*l.*

It should be noted that the practice of dental operations is not forbidden. The notice "Teeth Extracted" will not incur a penalty so long as no title is assumed which would lead the public to suppose that the person is registered. But if credit is given for such operations, the debtor might repudiate the debt, and the creditor would have no remedy against him.

The only persons now eligible for registration under the Dentists' Act are "licentiates in dental surgery or dentistry of any of the medical authorities" who have been specially empowered by the Act to institute examinations in this subject. The only limitation imposed by the Act on the granting of these licences is that the candidates shall be twenty-one years of age. The fee for registration, in addition to all other charges, is 5*s.*

The General Medical Council grants registration on condition that the dental student has passed a preliminary examination, has had instruction in mechanical dentistry by a registered practitioner, as apprentice, or in some other way, for a period of not less than three years; has attended lectures and hospital practice at a general hospital and medical school for one summer and two winter sessions, and at a dental hospital and school for two years. The attendance at the general medical and at the dental hospitals and schools may go on simultaneously. Those who commenced their dental education before the passing of the Act, July 22, 1878, are exempt from the preliminary examination. Candidates for registration as licentiates must have spent four years in professional study from the date of registration as a student. One of the three years that must be given to mechanical dentistry may be reckoned in this period. Pupils who have been articled to their fathers or relatives, with whom money transactions would be nominal, are considered to be in the same position as those who have paid premiums for instruction. The three years' instruction in mechanical dentistry, or any part of them, may be taken either before or after registration as a student, but only one year (which must be after registration) can be counted as one of the four years of professional study.

L.D.S. SINE CURRICULO.

The General Medical Council, after considerable debate, has decided that dentists registered as in practice before the passing of the Act shall be allowed to present themselves for examination in dental science before any recognised body who will examine them, and, if able to pass, may be granted a diploma without going through the curriculum demanded of new students. This will be seen to be a great concession. Registered dentists, many of them engaged in other occupations, could not possibly afford the time required to attend lectures and dissections during the day and had, under the old regulations, no chance of acquiring higher titles. They are now able to gain their knowledge when and how they will. Textbooks will take the place of lecturers, and there are private schools of anatomy where the necessary branches of this science may be studied in the evening. The Royal College of Surgeons of Edinburgh and the Royal College of Surgeons of Ireland grant the degree of Licentiate in Dental Surgery *sine curriculo*, and also, we believe, the Faculty of Physicians and Surgeons of Glasgow. The regulations are given below.

LICENTIATE IN DENTAL SURGERY.

Regulations of the Royal College of Surgeons of England.

"The Royal College of Surgeons of England had established examinations in this subject long before the passing of the Dentists Act, and its diploma of L.D.S., or Licentiate in Dental Surgery, is deservedly esteemed. The regulations under which this is granted are as follows:—The candidate must pass a preliminary examination recognised by the college. He must be twenty-one years of age, and must have been engaged during four years in acquiring professional knowledge, and during not less than three years in acquiring a practical familiarity with the details of mechanical dentistry under the instruction of a competent practitioner. He must also attend one course of lectures by recognised teachers in each of the following subjects:—Physiology, surgery, medicine, *materia medica*, chemistry, chemical manipulation, and metallurgy; and two courses in anatomy, dental anatomy and physiology (human and comparative), dental surgery, and dental mechanics. He must, at a recognised school, perform dissections

during not less than nine months, attend the practice of surgery and clinical lectures on surgery during two winter sessions, and the practice of dental surgery during two years.

Candidates who commenced their professional studies on and after July 22, 1878, must produce a certificate of having passed a recognised preliminary examination.

The examination is partly written, partly oral, and partly practical. Besides the purely technical matters relating to dentistry, it includes general medicine, anatomy, and physiology, and some branches of pathology and surgery. The fee for the diploma is 10*l.* 10*s.*, *plus* stamp duties.

The Royal College of Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow have similar regulations, except that only six months must be devoted to clinical surgery instead of two years, and no lectures on the practice of surgery are demanded. Fee, 10*l.* 10*s.*

The Royal College of Surgeons of Ireland requires one course of lectures on anatomy and physiology, one on surgery, one on chemistry, one on practical chemistry and metallurgy, one on materia medica, two courses on dental surgery, including dental mechanics and two courses of dissections; two winter sessions of general hospital practice and nine months of special dental practice.

L.D.S. SINE CURRICULO.

Regulations of the Royal College of Surgeons of Edinburgh.

Candidates who were in practice before August 1, 1878, or those not in practice, but who had commenced their apprenticeship as dentists before August 1, 1875, and are unable to furnish the Board of Examiners with the certificates of lectures and hospital attendance required by the foregoing regulations, shall fill in a schedule of application with the following particulars:—Full name, age, and address of candidate. Certificate of moral and professional character, signed by two registered medical practitioners. The date of commencing practice or apprenticeship as a dentist, and whether, if in practice, such practice has been carried on in conjunction with any other business, and, if so, with what business. Whether he has any degree or diploma in medicine or surgery, and, if so, from what college or university, or other body, and at what time it was obtained. The particulars of professional education.

The President's Council shall, on such information being afforded them, determine whether or not the candidate may be admitted to examination for the dental diploma, and such examination shall, with the exception of the preliminary examination, be passed only on the special dental subjects required for other candidates, and will confer the same privileges.

The fee is 10*l.* 10*s.*

The Regulations of the Royal College of Surgeons of Ireland are as follows:—

The examinations are of a practical character, embracing the anatomy, physiology, surgery, and pathology of the teeth, jaws, and surrounding parts, and mechanical dentistry; and shall be partly written and partly oral.

All candidates shall lodge with the Registrar of the College at least three weeks previous to each examination:—

Certificates of having attained the age of twenty-one years, also from two fellows or licentiates of any College of Surgeons in the United Kingdom, and from two dentists of repute, testifying that the candidate is of good character, has been engaged in the practice of dentistry for at least five years, and has refrained from advertising or other unbecoming modes of attracting business for at least two years previously.

A fee of 10*l.* 10*s.* must be paid in advance, half being returned to the candidate in case of failure.

Every successful candidate, previous to receiving the licence, shall declare that he will not advertise or pursue any other unbecoming mode of attracting business so long as he holds the licence in dentistry of the college.

DENTAL SCHOOLS.

Dental Hospital of London and School of Medicine, Leicester Square.—Total fee, 31*l.* 10*s.* Dresserships and other appointments open free to all pupils who have entered for the entire course. Only specially dental matters are taught here. The student must obtain elsewhere the necessary instruction in general surgery, &c. Many of the lectures are delivered at 8 A.M.

National Dental Hospital and College, 149 Great Portland Street, W.—Total fee, 25*l.* 4*s.* Dresserships open. Registered practitioners may attend short terms of hospital practice and single courses of lectures on paying the fees for them, instead of being required to enter for the full two years. Most of the lectures are in the evening.

Edinburgh Dental Hospital and School.—The hospital is in 30 Chamber Street. Fees, for two years' hospital practice, 15*l.* 15*s.*; lectures, 9*l.* 15*s.*; total, 25*l.* 10*s.*

Dental Hospital of Glasgow, Anderson's College.—Fee for two years' practice, 10*l.* 10*s.*; lectures, 2*l.* 2*s.* a course; total for whole curriculum, 42*l.* 10*s.* 6*d.*

Dental Dispensary, Octagon, Plymouth.—Fee for the dental curriculum required by the Royal College of Surgeons, 23*l.* 2*s.*

Queen's College, Birmingham, and Birmingham Dental Hospital.—Fee, 78*l.* 15*s.* for the full curriculum required for the dental diploma, including hospital practice.

Manchester Dental Hospital.—Fees for the dental part of curriculum, 25*l.* 4*s.*; for the general subjects at Owens College, 60*l.* 14*s.* 6*d.* This school has only just been established.

University College, Liverpool, and Liverpool Dental Hospital.—Fee for the lectures and full hospital practice required for L.D.S., 77*l.* 14*s.*

HOMEOPATHY.

LONDON HOMEOPATHIC HOSPITAL MEDICAL SCHOOL.

Great Ormond Street, Bloomsbury.

This provides a full course of lectures on the principles and practice of homeopathic medicine, and students are advised to devote a considerable part of their fourth year of professional study for acquiring a competent knowledge of this subject. All who wish to practise either homeopathy or any other system of medicine must be qualified under the Medical Act.

The fees are three guineas per annum for hospital practice and each course of lectures, or may be compounded for (perpetual) in one fee of 10*l.* 10*s.* The Hahnemannian lecture will be delivered on October 2 by Dr. Pope.

VETERINARY EDUCATION.

By the Veterinary Surgeons Act, passed in 1881, the profession receives safeguards similar to those which protect the practice of pharmacy, of medicine, and of dentistry.

No persons may now describe themselves as "veterinary surgeon," unless they are on the Register of Veterinary Surgeons. The register of members of the Royal College of Veterinary Surgeons is constituted the official register. Two classes of practitioners are recognised by this Act—(1) Members of the College, which is made to include all persons who hold a recognised veterinary diploma; and (2) "existing practitioners," who must have practised veterinary surgery for not less than five years before the passing of the Act, and have made application for registration within one year. After the last day of December, 1883, it became illegal for unregistered persons to assume the title of "veterinary surgeon," or of any other title stating that he is a practitioner of veterinary surgery.

The Royal College of Veterinary Surgeons grants the titles of "members" and "fellows." Candidates for membership must have gone through a three years' course at one of the veterinary colleges mentioned below, and pass three examinations (fee in each case 3*l.* 3*s.*). If the candidate is successful, he is registered as a member—M.R.C.V.S.; registration fee, 17*l.* 1*s.*

The candidate for fellowship must produce a certificate signed by three fellows as to his status in the profession, and of his having been in practice not less than five years; he must undergo an oral and written examination for election, 15*l.* 15*s.*

The following are the veterinary schools:—

ROYAL VETERINARY COLLEGE, Camden Town, London.—Fees, 37*l.* 16*s.*

ROYAL (DICK'S) VETERINARY COLLEGE, Clyde Street, Edinburgh.—Fees 32*l.* 15*s.* 6*d.*, in instalments.

NEW VETERINARY COLLEGE, Gayfield, Edinburgh.—Fees, 37*l.* 16*s.* in advance.

VETERINARY COLLEGE, Buccleugh Street, Glasgow.

SCIENTIFIC EDUCATION.

It is obviously impossible to give anything like a complete guide to the scientific educational establishments in this country. The few details here given may, however, be useful. The degrees in science most coveted are those of the London University. This body only examines, and does not teach. The degrees it confers are the B.Sc. and the D.Sc., both requiring very considerable scientific attainments. Full particulars can be obtained on application to the secretary. The work of the classes at Mason's College is designed in the first place to prepare for these examinations. The examinations of the Science and Art Department, South Kensington, are highly popular. They cover almost every branch of science, and are held in all important towns in the kingdom. A calendar giving a full syllabus of the subjects of each examination can be obtained from the secretary, price 6*d.* Letters addressed to the Department need not be stamped.

MASON'S SCIENCE COLLEGE.

Birmingham.

This was founded by Sir Josiah Mason, Knight, on February 28, 1875, and opened on October 1, 1880. The munificent founder died on June 6, 1881. His primary object, described in a deed dated December 12, 1870, as to promote "thorough systematic education and instruction, specially adapted to the practical, mechanical, and artistic requirements of the manufactures and industrial pursuits of the Midland district, and particularly the boroughs of Birmingham and Kidderminster, to the exclusion of mere literary education and instruction, and of all teaching of theology and of subjects purely theological." The founder expressly declared that regular systematic instruction should, as far as possible, include the following subjects, viz.:—Mathematics, abstract and applied physics, both mathematical and experimental; chemistry, theoretical, practical, and applied; the natural sciences, especially geology and mineralogy, with their application to mines and metallurgy; botany and zoology, with special application to manufactures; physiology, with special reference to the laws of health; and the English, French, and German languages. By another deed of 1874, anatomy and the Greek and Latin languages were added to the list, and on February 23, 1881, provision was made to enable the trustees to take all necessary steps, including extension of the curriculum, to affiliate the college with the newly-created Victoria University. The college is to be open to all without distinction of creed, race, class, or sex. How the intentions of the founder have been carried out we learn from the Mason's Science College Calendar. The whole scheme of study is intensely practical.

Students under sixteen must pass a preliminary written examination in elementary mathematics and English, and a *verb-voce* examination in either Greek, Latin, or French. Those over sixteen are admitted without examination. There is already a reference library of more than 10,000 volumes, and a really fine geological museum.

There are day and evening classes in nearly all the subjects mentioned in the trust deed. The charge for the day-classes is generally 3*l* 3*s*. to 4*l* 4*s*. per session of three terms; for the evening classes 10*s*. a term. Artisans and teachers at elementary schools are admitted to the latter at half-price. Students may enter for single classes, and are invited to consult with the professors as to their best course of study. Applications for admission must be made to the secretary, and fees must be paid in advance.

A special feature of the courses is the prominence given to practical work. Weekly geological and botanical excursions are arranged during suitable weather. There is a class on the practical applications of electricity. The social life of the students is well looked after. There is the Mason College Union, with the professors and their wives as vice-presidents, having for its objects, intellectual intercourse and recreation; physical, chemical, and botanical societies.

THE CITY OF LONDON COLLEGE

Was founded in 1848, at the Crosby Hall, by the Rev. Charles MacKenzie, to provide for the young men of the metropolis familiar instruction in the languages, arts, and sciences. The Queen is the patron, and the list of vice-patrons includes the Primate and the Premier, with many of the nobility. The list of classes, all held in the evening, includes languages as far as Hindostani and Dutch, writing, shorthand, music, as well as the sciences, and bookkeeping. The fees vary from 4*s*. 6*d*. to 9*s*. a term, according to the abstruseness of the subject.

THE CRYSTAL PALACE COMPANY'S SCHOOL OF PRACTICAL ENGINEERING.

Provides practical instruction in the rudiments of civil or mechanical engineering and in the manipulation of materials. The leading object is to prepare students by systematic practical instruction for professional articles, so that on entering an engineer's office or works the pupil may at once be useful to his principal, and enabled to take advantage of the opportunities for learning open to him because he has mastered the elementary details of the profession. There is also a section devoted to the instruction of intending colonists in scientific and mechanical experiments. The fees are 52*l*. 10*s*. a year. Full particulars on application to the secretary. There is also a school of landscape gardening.

THE ONSLOW COLLEGE OF SCIENCE, ART, AND TECHNOLOGY.

183 King's Road, Chelsea, S.W.

Connected with this there is a school for chemistry, in which instruction is provided in chemical analysis and assaying, both in its commercial bearing and as applied to the detection of adulterations in food, &c., as well as in practical microscopy. Fees for lectures, 2*l*. 2*s*. a course; for laboratory, 15*s*. for nine months. There are also evening classes in metallurgy.

THE SALFORD WORKING MEN'S COLLEGE,

Great George Street, Salford.

Provides evening classes in chemistry, at 2*s*. 6*d*. a term for the theoretical classes, 5*s*. a term for the practical classes. Also a technical class in calico and linen bleaching, printing, and dyeing; fee, 3*s*. 6*d*.

THE CITY AND GUILDS OF LONDON INSTITUTE FOR THE ADVANCEMENT OF TECHNICAL EDUCATION.

Two distinct organisations for education already exist in connection with this body.

The Technical College, Finsbury, has for its objects the education of—

- (1) Persons of either sex who wish to receive scientific and practical preparatory training for intermediate posts in industrial works.
- (2) Apprentices, journeymen, and foremen, who are engaged in the daytime, and who desire to receive supplementary instruction in the art, practice, and in the theory and principles of science connected with the industry in which they are engaged.

- (3) Pupils from middle class and other school's who are preparing for the higher scientific and technical courses of instruction to be pursued at the Central Institution.

The college therefore fulfils the functions of a finishing technical school for those entering industrial life at a comparatively early age; of a supplemental school for those already engaged in the factory or workshop; and of a preparatory school for the Central Institution.

The college embraces the following four chief divisions or faculties:—

- | | |
|---------------------------------|-----------------|
| 1. Mathematical and Mechanical. | 3. Chemical. |
| 2. Physical. | 4. Applied Art. |

The day classes are intended to fit those who pass through them to enter industrial works immediately. Courses of instruction are provided in mechanical engineering and applied mathematics (Professor John Perry, M.E.), applied physics and electric engineering (Professor W. E. Ayrton, F.R.S.), chemistry (Professor H. E. Armstrong, F.R.S.), and applied art (A. F. Brophy, headmaster).

The course of instruction for all-day students comprises practical mathematics, lectures and laboratory work in mechanics, physics, and chemistry, mechanical and freehand drawing, workshop instruction in wood and iron, and French or German.

The fee for day students for a complete course of instruction is 9*l*. for the session, payable in advance at the commencement of the session in October; or, 10*l*. for the session, payable in three instalments of 5*l*, 3*l*, and 2*l* at the commencement of each term. These fees include attendance at all the lectures, laboratory, and workshop courses in the department which the student enters, as well as the use of the apparatus and materials.

Applicants for admission, who must not be less than fourteen years of age, will be required to produce a certificate of good conduct from their former school, or other testimony of good moral character.

The certificate of the college is granted to students who have attended regularly during two sessions in any one department, and have satisfactorily passed the class examinations. The examination for the admission of students will be held at the college on October 2, at 10 A.M. The evening classes commence mostly at 6 P.M. The fees vary from 6*s*. to 12*s*. 6*d*. each course for a session of about nine months. Apprentices are admitted at half the ordinary fees. Courses of instruction are provided in practical mechanics and machine designing, practical mathematics, practical geometry, special lectures on the steam-engine, electrical technology, practical physics, inorganic chemistry, organic chemistry, with special lectures on gas and its use as an illuminating and heating agent, drawing, design, technical painting, modelling, lectures on art furniture and fittings, cabinet-making, carpentry and joinery, metal-plate work, and plumbers' work and bricklaying. Further particulars and syllabus of complete course of instruction for evening students can be obtained on application.

The Central Institution, Exhibition Road, S.W., is intended to provide thorough instruction for those who wish to become mechanical, electrical, or chemical engineers, or to be teachers.

Students will be required to pass an entrance or matriculation examination, which will include mathematics pure and applied, chemistry, physics, drawing, and French or German. The fees for a complete course of instruction for a matriculated student will be about 30*l*. per annum. The fees for separate courses, including laboratory work, will be from 10*l*. to 30*l*. The first session will commence on January 12, 1885, and the fee to students then admitted will be 20*l*. to the end of the session. The entrance examination will be held on December 16 and three following days, and will be open to all over the age of sixteen; fee, 2*l*. Various scholarships are offered. The entrance examination will include mathematics (with trigonometry and mechanics), mechanical drawing, physics, chemistry, and French or German, with practical examinations in chemistry and physics. Courses of instruction in mechanical, electrical, and chemical engineering are already projected. The Institute has also arranged technological examinations.

tions, which are held in different centres throughout the country in the following subjects :—

(1) Alkali and allied branches—(a) Salt manufacture, (b) Alkali manufacture, (c) Soap manufacture; (2) Bread-making; (3) Brewing; (4) Distilling—(a) Coal-tar distilling, (b) Spirit manufacture; (5) Sugar manufacture; (6) Fuel; (7) Oils, colours, and varnishes, manufactures of; (8) Oils and fats, including candle manufacture; (9) Gas manufacture; (10) Iron and steel manufacture; (11) Paper manufacture; (12) Pottery and porcelain manufacture; (13) Glass manufacture; (14) Dyeing—(a) Silk, (b) Wool; (15) Bleaching, dyeing, and printing of calico or linen; (16) Tanning leather; (17) Photography; (18) Electro-metallurgy; (19) Textile fabrics, manufacture of—(a) Cloth, (b) Cotton, (c) Linen, (d) Silk, (e) Jute; (20) Lace manufacture; (21) Weaving and pattern designing; (22) Electrical engineering—(a) Telegraphy, (b) Electric lighting and transmission of power, (c) Electrical instrument making; (23) Metal-plate work; (24) Plumbers' work; (25) Silversmiths' work; (26) Watch and clock making; (27) Tools—(a) Wood-working, (b) Metal-working; (28) Mechanical engineering; (29) Carriage building; (30) Printing; (31) Orcs, mechanical preparation of; (32) Mine surveying; (33) Milling (flour manufacture); (34) Carpentry and joinery.

The examinations will be in two grades—I., Ordinary; II., Honours; and will be held on May 20, 1885. A programme can be obtained from the secretary to the Institute, Gresham College, E.C.

THE STUDY OF CHEMISTRY IN ENGLAND AND GERMANY.

STUDENTS are beset with many more difficulties at starting in the profession of a chemist than in entering upon any other career; for, though a young man may be quite cognisant of the best way to become a good doctor, lawyer, engineer, or man of business, there are so many ways of entering upon the chemical profession that he is rather at a loss which of them to select when he wishes to qualify himself for a chemist. The writer has therefore thought it useful and interesting to give his own experiences of the kind of training a student undergoes in the chemical schools of this country and of Germany, and to institute a few comparisons between the methods of teaching, the curricula, the cost, &c., in the two countries.

It is often stated—and by men whose position in the scientific world should enable them to judge correctly—that Germany has far surpassed us in the excellence of its chemical instruction, the smallness of its fees, the equipment of its laboratories, and in the number of clever and brilliant chemists it produces. As would be naturally expected, in consequence of this indiscriminate laudation of German institutions, we find them filled with young Englishmen, who, hearing that for a less expenditure of capital they can obtain a better article, hasten to avail themselves of such opportunities, to the prejudice of our own chemical schools. But such general statements as these, without further comment, are exceedingly misleading, and many a young beginner has been disappointed to find that he has put himself to a great deal of unnecessary trouble and expense to procure what he could have much better obtained at home. The truth is that the German laboratories are not suited to the requirements of a beginner, or, indeed, a would-be analytical chemist; and, except in isolated cases—such as the laboratory of Fresenius, at Wiesbaden—analytical chemistry is better and much more thoroughly taught in England. The great aim and end in a German laboratory is *research*. Professors and assistants are, almost without exception, engaged on their own account with research in organics, even when nominally teaching inorganic chemistry; while the student, finding his analytical work irksome, and burning with the desire to discover something new, is as ready to begin research-work as his Professor is to let him. The result is that, after a short period, ranging from five to nine months, he goes into the organic-room, where, having spent a few weeks at combustions and general manipulation, he begins work upon some new hydrocarbon or analin colour. By these means the Professor is being constantly supplied with "hands" to work out his numerous ideas; and the immense quantity of facts which are always being obtained, and of new compounds which are constantly being discovered, serve to make his name and laboratory famous, a result which exerts no small influence upon his income. Now, the question is whether the inexperienced

beginner is much benefited by such a course; naturally he learns the methods of chemical research, and gains a detailed knowledge of very special parts of organic chemistry; but his general chemical education, as far as practical work is concerned, is, of necessity, neglected; and he soon forgets the little knowledge of analytical chemistry he has acquired. With the advanced student it is altogether different. He comes to Germany merely to give a finish to his chemical education. He already possesses a good solid basis of general knowledge, and can afford to specialise; he learns and applies the new and approved methods of research; he is brought into contact with renowned German chemists, and is in a position to appreciate their mode of thought; finally, he is taught to formulate and to work out his own ideas.

As regards the expenses connected with chemical study in Germany, it must be admitted that they compare favourably with those which obtain in England, and this is, in great part, due to the fact that German Universities are supported by the State, and that large sums are voted annually for the endowment of research and the purchase of apparatus. The academical year is divided into two semesters. The fees per semester for a course of lectures of five hours a week are from 20m. to 25m. (1*l*. to 1*l*. 5*s*.); shorter courses are given for the modest sums of 10m. or 15m., according to the number of hours per week, while laboratory fees range from 3*l*. to 4*l*. The rooms are fitted up with the newest and most expensive description of apparatus, and with all reagents, the only expense to the student being the materials used in his preparations and his glass apparatus; and this item depends largely upon the special character of the work in which he is engaged. Chemicals and apparatus are, however, much cheaper in Germany than in England. It may be added that it is possible to board and lodge in a German University town for the small sum of 3*l*. 10*s*. or 4*l*. per month, and that many German students do it for less. Prices, however, vary in different parts of Germany.

The courses of lectures are well chosen and exhaustive; the lectures themselves lucid and systematic; and the lecture experiments conducted with admirable precision and rapidity. The teaching staff consists of an ordinary (*ordentliche*) Professor, one or sometimes two extraordinary (*ausserordentliche*) Professors and Privat-Docenten, who are qualified assistants and allowed to lecture by the University. Elementary and advanced courses of lectures on inorganic and organic chemistry are delivered by the Professors, while it is left to the Privat-Docenten to give smaller courses on special subjects, as examples of which may be cited the following:—"Chemistry of the Nitrogen Derivatives," "The Alkaloids," "Chemistry of the Benzol Derivatives," "Chemical Toxicology," "Analysis of Organic Substances," "Spectral Analysis," "Outlines of the Modern Chemical Theory," &c. Besides these, the Professors are usually obliged to deliver a public course of lectures upon some special subject, like those above, the choice of which is left to their discretion. For the preparation of students for examinations a class (called *Reptitorium*) is generally formed, in which the leading principles of chemistry, as given in the longer courses, are rapidly repeated, and thus again impressed upon the mind of the candidate; this enables the Professor in his general course to freely extend his lectures, without being hampered by the thought that he must restrict himself to examination requirements. It is a practice prevalent in German laboratories, and one which certainly deserves imitation, to occasionally employ a professional glass-blower to give practical instruction in glass-blowing. No one can be a successful practical chemist if he is unacquainted with the principles of this most useful art, and in this way its importance has been recognised abroad.

Although the Germans doubtless deserve much praise for the energy of their professors and the excellence of their scientific schools, yet, as has been mentioned, for a good all-round practical training in chemistry nothing can be better than our own large and well-known laboratories at University College, London; South Kensington; Owens College, Manchester; and other places. Perhaps it might be useful to mention the expenses, and to give a short description of the course of instruction adopted in some of these. For a session of nine months the laboratory fees average 25*l*. (at South Kensington they are 30*l*.); lecture fees vary considerably—for a general course the average may be taken at 6*l*. If fees be high, still there are numerous scholarships and exhibi-

tions (institutions almost unknown in Germany) to be obtained, and some of them are extremely good. The earlier months of the student's first year are devoted to the preparation of the common gases and the practice of general chemical manipulation. He then proceeds to qualitative analysis, and learns to detect the simple acids and bases, going on by degrees to more and more complicated mixtures, his progress being tested at various stages by an examination; a man of average intelligence generally gets well into quantitative chemistry before the end of the session. In the second the student is practised in the more difficult quantitative analysis of minerals, manures, &c.; in volumetric determinations, in the different methods employed in organic combustions, assaying, and in the analysis of gases. By his third year he ought to be sufficiently advanced to have some idea of the particular department of chemical industry—unless he wishes to teach—for which he is fitted, and to which he intends to devote himself. The necessary training in the various branches of applied chemistry can be had at several valuable institutions which have of late years been established; for instance, the department of Chemical Technology at University College London; the School of Mines; University College; Bristol; and the new technical school at Finsbury, which seems now to be working well, and offers a good scientific instruction in combination with a sound practical technical training. In these schools the student is instructed in various departments of chemical industry; he can learn the principles of metallurgy and mining; he can study the arts of brewing, vinegar-making, and sugar-refining, or the working out of the coal-tar derivatives; finally, he can be trained as a consulting chemist or public analyst. Such a technical school corresponds to the German and Swiss Polytechnic, where much the same lines of teaching are followed. The best known of these is in Zurich, where the celebrated technical chemist, George Lunge, instructs in metallurgy, dyeing, bleaching, and calico-printing; lectures are also delivered by others on lighting, glass and earthenware, the chemistry of wine, paper manufacture, &c. Our technical institutes have doubtless been established in imitation of these polytechnic schools, and their rapid development is a proof that our leading scientific men have become alive to the exigencies of the case, and are doing their best to meet them.

For a complete chemical training a young man should be willing to devote at least three years, and, if he intends to take up some branch of industry that involves a large amount of organic chemistry, four years, to his chemical education. Of these the first two should be spent in studying theoretical and practical chemistry, together with allied subjects. The course he pursues in the third year must necessarily vary according to the circumstances of the individual student; he may choose the laboratory or technical school, in which he intends to complete his study, either in Germany or in England. If he purposes to teach, it would be advisable to spend at least one year in one of the noted German laboratories, perhaps in Munich, where the student is put through a systematic course of organic preparations before he is allowed to enter upon research. The expenses connected with studying in the two countries are, in the end, about equal; for, though one may live and study much cheaper in Germany (80*l.* to 90*l.* may easily be made sufficient for two semesters, or ten months), yet, on the other hand, there are so many scholarships and exhibitions to be had in England that any average man who works hard is moderately certain to obtain one, and can thus largely curtail his expenses. To learn the methods of research one would do well to spend some time in Germany, for, as yet, the English have not learnt its importance. In the words of the Royal Commission on Technical Education, "the Englishman is accustomed to seek for an immediate return, and he has yet to learn that an extended and systematic education, up to and including the methods of original research, is a necessary preliminary to the fullest development of industry."

A POET has remarked that "all paths lead to the grave." A wicked eclectic observes that the remark "undoubtedly referred to allopaths."—*Druggist (Chicago)*.

A PHARMACY in Berlin recently sold for \$300,000. We could mention several in this country which could be bought for less.—*Druggist (Chicago)*.

COLLECTIVE INVESTIGATION OF DISEASES.—At the meeting of the International Medical Congress at Copenhagen an important paper was read by Sir Wm. Gull, advocating, on behalf of the Collective Investigation Committee of the British Medical Association, an extension of the work to an international degree. The English committee have begun to investigate such clinical subjects as acute pneumonia, chorea, acute rheumatism, diphtheria, and inherited syphilis. Cards of queries have been issued on each of these subjects, and each card is accompanied by a memorandum stating the object of the particular inquiry, and directing the attention of the observer to the queries proposed. The observations of practitioners in respect to the communicability of phthisis are also being collected, and an attempt to construct life and family histories of health and disease is begun. The German Medical Association has commenced somewhat similar inquiries. It is suggested that an International Investigation Committee might with advantage discover facts concerning the rarer diseases.

HEBRA'S PRESCRIPTION FOR BALDNESS is as follows:—

						Grammes
Tinct. macis	:	:	:	:	:	5
Olei dulcis	:	:	:	:	:	50

IN Continental Europe during the Middle Ages, and in England down to the time of Queen Elizabeth (see Sir Walter Scott's "Kenilworth," chapter xiv.), the physician was frequently called an artist. In German the word in this sense still survives in "artz" (physician), which is an abbreviation of "artista," which, in turn, is itself a middle high German derivative from the Latin "ars."—*Lancet*.

TREATMENT OF TUBERCULOSIS BY IODOFORM INHALATIONS.—Dr. Guocchi, on the theory that the bacillus of tuberculosis can be destroyed by certain substances, causes his phthisical patients to inhale vapours of iodoform from a bottle with an indiarubber tube furnished with a teat, which the patient holds in his mouth. The treatment is repeated several times a day. Cigarettes might be substituted, the iodoform being packed between two pads of wadding, as is done in camphor cigarettes. Dr. Guocchi uses the following liquor, with which he declares he has obtained remarkable results in a great number of cases:—

						Grammes
Iodoform powder	:	:	:	:	:	150
Oil of turpentine	:	:	:	:	:	50
Nut oil	..	..	..	..	..	150 to 200
Ess. bergamot	..	..	..	..	..	240
Thymic acid	..	..	..	..	..	240

—*Union Médicale and Journ. de Pharm.*

BULRUSH-WOOL BANDAGES.—In neighbourhoods where it is plentiful the wool of the bulrush is employed by the poor for dressing wounds. Dr. Klamann finds that it answers for this purpose remarkably well, since it is not only an excellent absorbent, but, being very soft, fits itself admirably to the joints. The best time for gathering the wool is autumn or winter.—*Deutsche medicinische Zeitung*.

BISULPHIDE OF CARBON AS A DISINFECTANT.—Calling to mind the much greater efficacy of the combustion of bisulphide of carbon than that of ordinary sulphur in extinguishing chimneys on fire, M. Pierre Vigier suggests (*Gazette Hebdomadaire*, August 15) that it would probably prove a far more active disinfectant of rooms and hospital wards. It is cheap, costing only 1*f.* per kilo.; is very inflammable, burning to the last drop, and emitting torrents of sulphurous and carbonic acids. Dr. Dujardin Beaumetz is now conducting experiments in disinfection at the Cochin Hospital, and M. Vigier suggests that he should try the efficacy of the bisulphide by burning 2 or 3 kilos. in a closed room in which infectious germs have been deposited. After being exposed to the fumes for twenty-four hours, they should be examined to ascertain whether their vitality has been destroyed.—*Med. Times*.

THE homeopaths think they will be installed in the White House—viz., if Blaine be elected President. They claim that homeopathy cured Blaine's sunstroke eight years ago.—*Detroit Lancet*.

Medical Gleanings.



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WHOLESALE AND EXPORT HOMEOPATHIC CHEMISTS,
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SCHIEFFELIN & CO. See page 106.

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TUSON'S DISINFECTANTS. See page 63.

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HAY'S SOLUBLE ESSENCE OF GINGER. See page 74

HAY'S GINGER CHAMPAGNE. See page 76.

HAY'S SOLUBLE ESSENCE OF LEMON. See page 76.

EDITORIAL NOTES.

THE BRITISH PHARMACOPOEIA.

A GOOD deal of cheap and easy criticism is going about respecting the British Pharmacopœia, the particular purpose of which is not quite obvious. We printed last month the resolutions passed by the section of Pharmacology and Therapeutics of the British Medical Association at Belfast, to the effect that the present condition of the British Pharmacopœia is not satisfactory, and that the Council of the Association should consider what steps might be taken to ensure that the proposed new edition should be more completely in accord with the present state of medical knowledge. As the Medical Council have ordered a new Pharmacopœia to be prepared, it may be presumed that they also are not quite satisfied with the 1867 edition. It was hardly worth founding this section of Pharmacology and Therapeutics to make the discovery that a pharmacopœia is likely to get out of date some 20 years after its compilation.

The discussion on the resolutions is printed on another page. The only practical outcome thereof is the proposal that a committee of the British Medical Association should issue an annual semi-official list of new drugs and preparations. Such a publication would be of great service, and would besides greatly facilitate the work of revising the Pharmacopœia itself. It is evident that the undertaking would be a source of profit rather than a burden to the

Association. The suggestion that pharmacists should be associated in the revision of the Pharmacopœia seems to have been received with favour, though Dr. Shoemaker, who severely criticised the new United States Pharmacopœia, which is essentially a pharmacists' production, did not much assist that idea.

We gave a summary last month of the rather sweeping condemnation of the British Pharmacopœia which had been published by Dr. Farquharson.

Dr. Lauder Brunton, referring to Dr. Farquharson's letters, agrees with him in desiring to lessen the range of the student's work, but does not wish to accomplish this by cutting down the Pharmacopœia, which, he remarks, is not a student's text-book. He would prefer to limit to some 12 or 20 drugs those which the student should be required to know, but these he would have him know thoroughly. Further, Dr. Brunton desires to see more palatable preparations introduced into the Pharmacopœia, as he thinks the homœopathic practitioners and the patent-medicine makers get an advantage in this respect. He instances the "abstracts" and elixirs of the United States Pharmacopœia as worthy of imitation, and also quotes the form for Dover's powder there given, in which sugar of milk is used instead of sulphate of potash, as a step in the right direction.

~~FOREIGN MEDICINES AND THE PATENT MEDICINE STAMP-ACT.~~

AMONG the discussions which have arisen on the claim of the Board of Inland Revenue to inflict their tax on all "foreign medicines" sold in this country, it has been almost too readily assumed that the Board had an unquestionable legal right to charge this protective, or perhaps, in many cases, prohibitive, duty. But it has been pointed out to us by a gentleman who has for many years had a close acquaintance with the working of the Act, that this legal right is at least a doubtful one. The Act, as is well known, specifies a large number of medicines, most of which are now obsolete, which are liable to the stamp, and amongst the rest it names "foreign medicines of all kinds except drugs." Following this schedule comes the familiar clause rendering liable "all other pills, powders, lozenges, tinctures, potions, cordials, electuaries, plaisters, unguents, salves, ointments, drops, lotions, oils, spirits, medicated herbs and waters, chemical and officinal preparations whatsoever," sold under certain conditions. Then are named several "special exemptions," and among these are—

All mixtures, compositions, or preparations whatsoever mixed or compounded with or prepared from medicinal drugs, medicated or chemical preparations or compositions, or other ingredients bearing different denominations, or having different properties, qualities, virtues, or efficacies, which shall be uttered or vended by any such surgeon, apothecary, chemist, or druggist, as aforesaid the different denomination, properties, qualities, virtues, or efficacies of which mixtures, compositions, and preparations as aforesaid are known, admitted, and approved of in the preservation, cure, or relief of any disorder, malady, ailment, or complaint incident to or in anywise affecting the human body, and wherein the person mixing, compounding, preparing, uttering, or vending the same hath not nor claims to have any occult secret or art for the mixing, compounding, or preparing the same, nor hath nor claims to have any exclusive right or title to the mixing, compounding, or preparing, or to the vending of the same, and which mixtures, compositions, or preparations have not been, are not, nor shall hereafter be prepared, uttered, vended, or exposed to sale under the authority of any letters patent under the Great Seal, nor at any time heretofore have been, now are, or shall hereafter be by any public notice, advertisement, or by any written or printed papers or handbills, or by any labels or words written or printed, and affixed to or delivered with any such packet, box, bottle, pot, phial, or other enclosure aforesaid, held out or recommended to the public by the owners, proprietors, makers, compounders, original or first vendors thereof, as nostrums or proprietary medicines, or as specifics, or as beneficial for the prevention, cure, or relief of any such distemper, malady, ailment, or complaint as aforesaid.

The Act, therefore, says first "all foreign medicines" are subject to stamp duty, and afterwards it declares that "all mixtures, compositions, or preparations whatsoever" are exempt, unless such and such claims are made for them. Which declaration overrides the other? If the exemption clause applies to foreign medicines it is quite clear that the latter are practically only subject to stamp duty, just the same as they would be if they were English preparations sold under certain conditions.

We have submitted this difficulty to the Board of Inland Revenue, and have received a reply from which the following is quoted:—

The view which has been uniformly taken by them [the Board] (and which they are advised is correct) of the expression "Foreign medicines of all kinds except drugs," in the alphabetical list of articles in the schedule to the Act 52 George III. c. 150, is that every foreign medicine not being a drug is thereby placed in the same position as if it had been by name included in such list, and that, inasmuch as the clause at the end of the list and the special exemptions either in terms exclude or are inapplicable to the articles named in the list, every foreign medicine, not being a drug, is within the charge of duty.

The question thus offered for dispute is a very pretty one. The view taken by the Board is here definitely stated, and doubtless they are prepared to defend it. But they are not infallible, as Mr. Lamplough proved. We do not presume to argue with the Board; but we certainly fail to see how the line "Foreign medicines, &c.," denominates any article to which it applies, any more than the "special exemption" denominates any article to which it applies. If both denote the same article, it does not seem to us doubtful which would rule. Any foreign firm willing to provide a most interesting question for lawyers to dispute has now the opportunity.

TRADE-MARK RIGHTS IN WORDS.

THE substitution of King Stork for King Log has been the not infrequent result of appeals to Parliament for amended legislation. It seems as if we have got something of the kind in the new regulations concerning trade-marks. Until this year the Registrar has steadily refused to admit to registration any mere words, however fanciful, as trade-marks. An exception was always made in favour of words used as trade-marks before August, 1875. This exclusion of the right to use fancy words as trade-marks seemed, however, an unnecessary restriction on business. What manufacturers wanted was protection for a fancy title which should come to designate their particular products. The inventor of a scent or a sauce wants protection for his "Paradisina" perfume or his "Tiberius" relish. This is much more useful to him than mere protection of a certain design which he may print on his labels. The public buy the perfume or the relish, and do not trouble themselves about the presence or absence of an anchor, a crown, or a cross-keys on the labels.

So the Government granted this power of registering fancy words as trade-marks, and the result is now beginning to appear. Last month we published some correspondence which had passed between Mr. Haydon, of Birmingham, and the Registrar of Trade-marks. Mr. Haydon seems to have directed attention to the registration of the terms "Domestic Tea" and "Mitre Tea," and to have asked on what principle such titles are admitted to registration. The answer of the Registrar showed that the subject had been considered, and it can easily be seen that to draw the line fairly is a task of extreme delicacy. The Act says he may register as a trademark any distinctive impression of the name of the firm, or the signature of a firm, or "a distinctive device, mark, brand, heading, label, ticket, or fancy word or words not in common use."

The Registrar decided—fairly enough, we think—that he ought to regard as a fancy word, not necessarily an absolutely new word or meaningless combination of letters, but any word used outside of its ordinary significance. The term "Mitre," as applied to tea, seems to be, on that interpretation, quite a fancy word, but the adjective "domestic" almost approaches description. The Registrar, however, points out that the combination of words "Domestic Tea" is not a combination of "words in common use," like "Souchong Tea" or "Green Tea," which, as such, would clearly be excluded.

Now, however, two correspondents write to us respecting the attempt of a Yorkshire botanist to get the title "Composition Essence" registered as his own trade-mark. This title, our correspondents allege, is in common use among chemists in the North of England—as common, says one, "as castor oil or spirits of nitre." We do not know what Mr. White's equitable claims may be. He may or may not have invented the title in the first place. But, as we understand the law, his original rights do not come within the cognisance of the Registrar. The Courts have held that the use of a trademark by more than three persons constitutes common use, and is, therefore, a bar to registration. Our two correspondents and Mr. White himself make the three, so only one more user is wanted. Mr. White claims to have this mark registered, not under the new Act, but as having been used before August, 1875. But this, we understand, does not affect the question as to common use.

Mr. Hebden has undertaken to oppose Mr. White's claim. We think, if the facts are as they are stated, one of the Trade Associations ought to take up the case. There is one other point. The Act gives the Comptroller no expert assistance, and he cannot be expected to know all the details of the fifty trades whose representatives come to his office. But the Act says he is not to register "words in common use." Doubtless he would refuse new applications if the proposed mark consisted of words of notoriously common use, such as "Souchong Tea." But a term once advertised in the official journal, such as this "Composition Essence," can only be removed by the expenditure of at least one guinea, and nobody knows how much more. Is it fair that in such a case the opponent should have to pay at all, the Registrar having contravened the express words of the Act? It should be added that when a trade-mark has remained on the register for five years the owner can claim its exclusive use, without the possibility of legal dispute.

WOMEN AS PHARMACISTS.

AT the meeting of Dutch pharmaciens, held at Gravenhagen, on June 29 (says the *Pharm. Zeitung*), one of the subjects discussed was the employment of females as pharmaceutical assistants. The report says:—"The opinions of those of our colleagues who employ female assistants were to the effect that they preferred women to men for dispensing work, and that in regard to sobriety, exactitude, and quickness in the retail department they are superior; but it was generally added that for hard work, such as the beating up of heavy pill masses, it was still necessary to employ men, so that, on the whole, good male labour was preferable to good female assistance.

A college of pharmacy for women has been established at Louisville, U.S., and we read in the American journals reports of progress. Provision is made for teaching all the practical work of pharmacy, and on July 1 several graduates received their diplomas. On that same occasion an intelligent address was delivered by one of the graduates, a Miss Fauntine Vetter. Interspersed with several poetical quotations

which might be expected, this lady made a forcible defence of the right and reason of herself and her associates in choosing pharmacy as their occupation. Boys and young men, she urged, were with difficulty confined within four walls, and could not enjoy the seclusion of a drug-store. But woman, "quiet and gentle by nature, loving the privacy of home," hails that seclusion with delight. Why the world should be so opposed to woman as a pharmacist is hard to understand. The profession is eminently a noble one. The pharmacist stands between the physician and suffering humanity. In his hands he holds life or death. The little parcel which he sends out may bring joy and happiness or sorrow and woe to a household. Has any other work any more responsibility attached to it? Who is the nurse who soothes and administers to the wants of the suffering? Is it not a woman? And if woman can administer the decisive dose, why can she not prepare it?

Miss Vetter sees no reason why the night-bell should be an insuperable obstacle, as it is often that the physician's wife answers the calls made on him. Nor does she see why men, and certainly not why women, should object to be served by a woman who understands her business. She believes, in fact, that the employer would find his custom increased by having at least one lady clerk in his store. The perfect adaptability of woman to the work which requires close confinement, steady habits, deft fingers, sympathetic nature, honesty, faithfulness, and loyalty should at once guarantee her success.

Besides, she believes that the temptations so often destructive to men will not influence women; and she asserts that the latter have every reason to anticipate success, for they are capable of perfect devotion to duty, control and conquest of self, and patience to run the race set before them. Verily, ladies of such virtues are worthy of something better than pharmacy even.

THE BRITISH ASSOCIATION.

THE bold experiment of extending the home of the British Association seems to have been on the whole a grand success. The actual membership was of course somewhat below the average, but this was a result which was certain to occur. But the spirit of the meeting was fully as vigorous as any which has been held in these islands, and it cannot be doubted that the intercommunion of so many of the best minds of England and Canada must have a bracing effect on the culture of both lands, while the cordiality of the hosts on the one hand, and the heartiness with which the eminent guests enjoyed their visit on the other hand, together with the fact that a thoroughly good programme of scientific work was accomplished, will help to enforce the convictions that the English race throughout the world has other than mere political interests, and that every section can help the rest in all that promotes true progress.

The great scientific event of the meeting, we are told, was a telegram received by the Biological section from Australia, which ran thus:—"Caldwell finds monotremes viviparous, mesoblastic ovum." This was not a cypher telegram, as it may seem to some of us, but was quite legible to the biologists. Full explanation is not yet forthcoming, but it appears the announcement may be taken to indicate the probability that all mammals, including man himself, are descended from the reptiles, and not from the amphidians. No doubt, if this is the case, it is as well we should know it, but we confess we are not much excited about the news. Mr. Caldwell, it may be added, holds the Balfour scholarship, created in honour of Professor F. M. Balfour, who lost his life in the Alps about two years since; and certainly not the least striking fact about his communication is that it should have been

sent from Australia to Canada and published in London the next day.

Geography, as usual, caught a sensational hero. Lieutenant Greely filled the rôle this year, and he seems to have met with a warm reception, and to have created a favourable impression as a scientific man. His most remarkable observation is that the tide flowing from the Pole was distinctly warmer than that which flowed in the other direction. This presents a curiously difficult conundrum for geographers to solve.

Lord Rayleigh's address was a masterly one, without any attempt to make it startling to a popular audience. He presented a kaleidoscopic view of modern scientific studies from a physicist's point of view. The occasional remarks thrown in among his references to various researches indicate that he is a man who does not let his scientific studies and sympathies blind him to the purpose of all research. He believes that the next great advance—of which we have already some foreshadowing—will come on the side of chemistry. And he thinks that this advance will be hastened by a more careful study of the simpler chemical phenomena. He does not appreciate the enormous accumulation of isolated facts unless these are to prove something or bring out some general law, for he seems to have an unflinching faith in the reign of law throughout the universe.

"Science," says Lord Rayleigh—and his words will awaken a sympathetic echo in every student's mind—"is nothing without generalisations. Detached and ill-assorted facts are only raw material, and in the absence of a theoretical solvent have but little nutritive value. At the present time and in some departments the accumulation of material is so rapid that there is danger of indigestion. By a fiction as remarkable as any to be found in law, what has once been published, even though it be in the Russian language, is usually spoken of as 'known,' and it is often forgotten that the rediscovery in the library may be a more difficult and uncertain process than the first discovery in the laboratory. If, as is sometimes supposed, science consisted in nothing but the laborious accumulation of facts, it would soon come to a standstill, crushed as it were under its own weight. The suggestion of a new idea or the detection of a law supersedes much that had previously been a burden upon the memory, and by introducing order and coherence facilitates the retention of the remainder in an available form."

In concluding his address he took occasion to depreciate anything like an exclusively scientific education. He does not seem to love "the men with scientific tastes whose imaginations are never touched by merely literary studies." He recognises the value of Latin, Greek, and mathematics as disciplinary studies; but he sees that a study of French and German would go far to replace the dead languages from a disciplinary point of view, while the actual value of the acquisition would, in a majority of cases, be incomparably greater. Lord Rayleigh's address was, in all respects, well worthy of the position he occupied and of the exceptional occasion of its delivery.

Professor Sir H. Roscoe, as President of the Chemical Section, delivered an address which might have suggested Lord Rayleigh's anticipation of some new grand generalisation from his branch of science. First comparing the Berzelian period of chemistry, which ended in 1848, with the Dumas period, which closes with that great man's death this year, Professor Roscoe sketched briefly the characteristics of each school, but cautiously avoided any prophecy as to the probable features of the epoch now opening. He suggested the difficulties which the new chemistry of Laurent and Gerhardt had met with, and how hard the Berzelian theory of the binary nature of chemical compounds had died. Then he

went on to narrate the promise contained in the success of the theory of periodicity, as illustrated by the discovery of the missing links, gallium and scandium. From this he passed to the discussion of the spectrum, that delicate record of every constituent which forms our molecules when we know how to see it and read it aright. And he wound up with a general comparison of the work of Englishmen as compared with that of other nations in helping forward the science, a survey which results not altogether in the disparagement of this nation.



AND Literary Notes.

THE AMERICAN PHARMACEUTICAL ASSOCIATION, 1883.

THE report of the proceedings of the American Pharmaceutical Association at the thirty-first annual meeting, held at Washington in September of last year, has only been received about a month since—an easygoing system of publication with which our own Year-book compares favourably. More than half the book is occupied by Mr. Lewis Diehl's report on the progress of pharmacy. To this are added the reports of various committees. Some of these—as, for instance, the report of the committee on the drug market—must necessarily have only an antiquarian interest by the time it gets published.

As we did not find an opportunity of giving abstracts of the papers read at the Washington meeting, and as some of them were of considerable importance, we propose to remedy the deficiency now.

SPECIFIC VOLUMES.—Professor Oscar Oldberg presented a table of "specific volumes" of certain liquids, and advocated that some such table should appear in the *Pharmacopæia*. By "specific volumes" he means the comparative space occupied by a certain weight of any liquid. The term is the complement of "specific gravity," and "specific volume" is always in exactly inverse proportion to "specific gravity." It is obtained by dividing unity by the sp. gr. To take an example:—Glycerine has a sp. gr. of 1.250. Divide 1,000 by 1.250; the quotient, .800, is the specific volume of glycerine. With a table of specific volumes before him the pharmacist can see at a glance that 1 lb. of glycerine would occupy $\frac{5}{6}$ ths the space of 1 lb. of water; ether, $\frac{1}{3}$ rd the space; benzil, $1\frac{1}{2}$; chloroform, $\frac{2}{3}$; honey, $\frac{3}{4}$; syrup, a little more than $\frac{3}{4}$; sulphuric acid, a little more than $\frac{1}{2}$; and so on.

SNOW-WATER.—Mr. Sloan, of Indianapolis, had investigated the theory that snow-water collected in April will furnish water which will remain limpid through the summer, and which can be used by pharmacists and photographers. He collected samples in each month from November to April, filtered them into bottles, and left them undisturbed till July 15. At that date all seemed limpid. The stoppers were then removed, and the bottles well shaken and the samples set by for another ten or twelve days. They were then examined. All were bright, but more or less sediment appeared in all, the November and April samples, however, only depositing slightly. Odour, when heated to 100° Fahr., was slight in all samples except November and April, which gave none. The total solid matter varied from 5 in 100,000 in April to 10 in January. The organic and volatile matter was only $\frac{1}{2}$ part in 100,000 in the April sample, while in the other samples it varied from 3 to 7 parts. The author believed that the extra purity of the April sample resulted rather from the fact that just before the fall of the snow the atmosphere had been washed by a shower of rain than from any more fanciful cause, and as such an occurrence is probable in April he supposes this to be the origin of the theory.

PRECIPITATES IN FLUID EXTRACTS, TINCTURES, &c.—Professor Lloyd has continued his experiments which we noticed at some length in December, 1882. In this paper he

discusses the formation of surface precipitates, films which form on the sides of the bottles, and which he shows are the result of alternate evaporation and condensation going on in a closed vessel.

EXTRACT OF MALT.—The same author read a paper on this subject. He considers that extract of malt should be made as other fluid extracts are made—by percolation; and he sees no advantage in the German process, which brings it to the consistence of thick honey. Professor Lloyd's process to prepare a fluid extract of malt which shall represent as nearly as practical 1 part of malt in 1 part of the extract is as follows:—Use a tall cylindrical percolator, and for menstruum a mixture of 1 part of alcohol with 4 parts of water. Moisten ground malt with this menstruum, and after one hour pack it carefully, but not too firmly, in the percolator. Add the remainder of the menstruum, and when percolation commences close the exit and macerate for twenty-four hours, then draw the percolate slowly until its weight equals $\frac{3}{4}$ of the malt. Place the product in a tall vessel to settle, and decant. The decanted liquid is the finished fluid extract. It is believed that in processes in which heat is employed the diastase of the malt is more or less destroyed.

PETROLATUM OINTMENTS.—Professor Remington submitted a series of formulae for ointments in which petrolatum (the U. S. official vaseline) is substituted for oil or lard. Simple cerate he makes with yellow wax 30, petrolatum 70; simple ointment with yellow wax 20, petrolatum 80. Among other formulae we quote:—*Cerat. Cetacei*.—Spermaceti 10, yellow wax 25, petrolatum 65; not white, but much more permanent than the official. *Ung. Acid. Carbolic*.—Carbolic acid 10, petrolatum ointment 90; less tendency to separate than the official. *Ung. Acid. Tannic*.—Tannic acid 10, benzoinated petrolatum 90; better than the official. *Ung. Hydrargyri*.—Mercury 450, petrolatum 350, compound tincture of benzoin 40, mercurial ointment 100; mix the mercury with the tincture, add the mercurial ointment—which should contain 50 per cent. of mercury—and triturate till globules are no longer visible; add the petrolatum and yellow wax (none given in the formula) previously melted together and partially cooled, and triturate until no globules are visible under a power of 10 diameters. Mr. Remington says this ointment is better than the official, is more rapidly prepared, has a pleasanter odour, and is not liable to rancidity.

PLANTAIN EXTRACTS.—Mr. Colcord, having read Dr. Quinlan's recommendation of plantain as a styptic, made some pharmaceutical experiments. He expressed the juice from fresh leaves, and combined with it an equal quantity of glycerine. He percolated the residue with dilute alcohol. He also made other mixtures of the juice with alcohol in different proportions. As a styptic he has found the glycerate successful. Its properties are due to tannic acid.

THAPSIN PLASTER IN WEEPING SINEW.—Suffering with weeping sinew, Mr. Colcord applied by a lucky chance thapsin plaster, and had relief in twenty-four hours.

GLYCERINE TO PREVENT CRYSTALLISATION OF HONEY.—Mr. Colcord has found this a convenience. He uses about 1 oz. glycerine to $1\frac{1}{2}$ lb. of honey. He thinks it might prevent the crystallisation of simple syrup.

RICE HULLS, OR RICE CHAFF, is recommended by Mr. W. M. Thompson as an inert body for supporting the drug in percolating fluid extracts admitting a free flow, and mixed with the drug permitting very readily the recovery of the spirit.

THE ADULTERATION OF DRUGS was discussed by Mr. Cowdrey. In the course of his paper he quoted a judicial decision of the United States Supreme Court in an interesting case. Mr. Fulle, presumably a pharmacist, was tried on the charge of selling adulterated cream of tartar. This so-called cream of tartar contained about 95 per cent. of terra alba and 5 per cent. of tartaric acid. Defendant was at first convicted and fined. On appeal to the Supreme Court the judgment was reversed. Judge Cowing said: "There is no positive and direct evidence that the defendant was guilty of any criminal intent or culpable negligence. On the contrary, the unavoidable conclusion is—that he was desirous of obeying the law, bought the cream of tartar in the open market, paid the highest price, and asked for the best article. The evidence falls very short of making the defendant a criminal. I think the judgment should be set aside, and it is so ordered."

THE PRODUCTION OF BROMINE IN THE UNITED STATES, according to Mr. Gordon, of Cincinnati, reaches nearly 500,000 lbs. annually. There are half-a-dozen spots where it is found in brine after the salt has been extracted. Unless new sources are found the production is likely to decrease, as in some of the places the production of salt has proved unprofitable. In 1868 the average price was \$2 per lb.; for some years past it has not exceeded 28 cents. Much difficulty has been experienced in getting vessels to carry it, and, of late, shipments have generally been in bromide of potassium.

IODIDE OF POTASSIUM.—Mr. A. B. Prescott submitted a long report on the relative purity of American and foreign iodide of potassium, the general result being that the bulk of American was hardly up to European standard, though it was to be had equal, but that, with import duties, foreign iodide cost about 100 per cent. higher.

CITRATE OF CAFFEINE.—Mr. G. C. Wheeler had examined three brands of so-called American citrate of caffeine—the only brands he could obtain. One contained 63·5 per cent. of caffeine, another 81·1 per cent., another 96·53 per cent. He concluded that all were merely mixtures of caffeine with citric acid.

SULPHATE OF CINCHONIDINE.—Mr. G. W. Kennedy undertook to answer the query whether any sulphate of cinchonidine of American manufacture was adulterated with sulphate of magnesium. After an examination of samples manufactured by Rosengarten & Sons, Philadelphia; Keasby & Mattison, Philadelphia; Powers & Weightman, Philadelphia; and McKesson & Robbins, New York, he concluded that this form of adulteration did not exist in the American article.

COMMERCIAL QUININE PILLS.—Some analyses having been published which seemed to indicate that many of the quinine pills offered by American wholesale houses did not contain their professed proportion of sulphate of quinine, Mr. V. Coblenz had made an investigation which brought out the American manufacturers very favourably. Out of eighteen brands only two seemed anything more than fractionally deficient, and in the majority of cases good weight seems to have been given.

STATHMETIC ESTIMATION.—Mr. A. B. Taylor, Philadelphia, and Mr. W. W. Bartlett, Boston, read papers advocating the insertion of directions for stathmetric or stathmetometric estimation into the Pharmacopœia, either in place of or in addition to the directions for volumetric analysis already included. By stathmetic estimation is simply meant that the solutions shall be weighed, not measured. Thus, for 1,000 cubic centimetres, read 1,000 grammes. The advantage gained would be that the operation would be independent of temperature.

CAFFEINE IN GUARANA.—Mr. Fremster, Cincinnati, has analysed five samples of commercial guarana, and finds the proportion of caffeine vary from 4·3 to 5 per cent. From this he concludes that the guarana supplied is very pure.

OIL OF BIRCH-BARK AND OIL OF WINTERGREEN.—Mr. G. W. Kennedy contributed a paper on the query whether oil of birch-bark is sold in commerce for oil of wintergreen. He says, "Yes; the oils are sold and used indiscriminately." It appears that it is possible to detect a difference in the odour; but the oils are very similar, though, in consequence of a different method of distillation, oil of birch is pure salicylate of methyl, while oil of wintergreen is the same plus about 10 per cent. of terpene.

A Practical Treatise on the Raw Materials and Fabrication of Glue, &c. By F. Dawidowsky. Translated from the German, with extensive additions, by W. T. Brannan. Philadelphia: H. C. Baird & Co. London: S. Low & Co.

THIS is one of those treatises, all too rare, in which a practical man contributes freely his technical knowledge. After first describing the chemical characters of glue, and the means of testing it, the raw materials and the manner of preparing them are detailed; then the processes involved in the fabrication are given, step by step, together with full particulars concerning the arrangement of a glue-factory. A special section is devoted to gelatine, and next the uses of glue and gelatine are enumerated, and the methods are given for adapting the substances for the various purposes named. Then follows an abundant collection of recipes for cements, pastes, and mucilages, and hints are included as to the application

of these. Lastly, a short chapter describes the present distribution of the glue manufacture in the various countries of the world.

Among the uses of glue not, perhaps, universally known may be quoted the manufacture of windows for war-vessels, as the concussion caused by the firing of heavy guns would break glass; combined with glycerine, an imitation caoutchouc is obtained, from which children's toys are manufactured; with molasses, printers' rollers, moulds for plaster-of-Paris casts, &c., are made. Mixed with chromium salts, glue is the only known means of transferring a photographic negative to a lithographic stone. Gelatine is now employed for many new purposes. By colouring, veneers are made which imitate malachite, lazulite, and avauturina. Glue is produced in France like mother-of-pearl, tortoise-shell, and ivory. Cabinet-ware, buttons, fans, combs, snuff boxes, &c., are now made from this material. The manufacture of gelatine capsules for medicines is also an extensive business. One factory at Dantzig turns out 3,000,000 of these capsules every year.

THE National Health Society, of 44 Berners Street, Oxford Street, W., has published a small pamphlet explaining how to prevent and oppose the cholera. The directions are plain, and, if carried out, must do much to improve the health of the community. This is just one of the publications chemists would do well to circulate. They are sold at low rates, and could be distributed gratis or sold to customers.

Scientific Notes:

On Chemistry, Pharmacy, Botany, Materia Medica, &c., Original, Selected, and Translated.

ANALYSIS OF THE SEEDS OF SYMPHONIA FASICULATA.*
J. REGNAULD AND VILLEJEAN have examined the seeds of *Symponia fasciculata*—a plant indigenous to Madagascar, and remarkable for containing 56 per cent. of their weight of fat. The fat, which is of a solid consistence, is odourless, has a yellow colour, and melts at 27° C. It contains oleic, palmitic, and stearic acids, probably in the form of glycerides, and is, therefore, analogous in composition to the nutritive fats of the mammalia. Astringent substances found in the leaves resembled those peculiar to the cinchonas, catechu, and kino. The seeds of *Symponia fasciculata* also contain cellulose, pectine, albuminous substances, and quercitrine.

AVELOZ MILK.

WITH reference to this South American alleged cancer cure, concerning which we published an article in June last, we understand that one of the plants yielding the milk, obtained from a reliable source, has been lately received by Messrs. Christy & Co., and that it is now being cultivated by Mr. Christy at Sydenham. He proposes to publish a description shortly. Messrs. Christy & Co. gave some particulars of the product in their "New Commercial Plants and Drugs" in January last.

DETECTION OF ADULTERATION OF ESSENTIAL OILS BY MEANS OF SALICYLIC ACID AND IODIDE OF POTASSIUM STARCH PAPER.†

VARIOUS methods have been proposed for the ready detection of adulteration of essential oils, but none have proved of general practical value.

H. W. Langbeck has now found that salicylic acid is soluble in certain proportions in essential oils, and that the degree of solubility varies with the composition of the latter, those oils richest in oxygen dissolving it more readily than those poorer in oxygen, and from the relative capacity of an oil to dissolve salicylic acid the author draws his conclusions.

Langbeck states that the most common adulterations consist in an admixture of from 5 to 10 per cent. of oil of turpentine. He therefore mixed several essential oils of known quality with various proportions of oil of turpentine,

and gives the results in the subjoined table. The figures on the right represent the number of cubic centimetres of oil required to dissolve 1 g. of salicylic acid.

Aniseed oil ..	Freshly rectified	74·7
" ..	Freshly rectified + 5 per cent. oil of turpentine	94·0
" ..	Freshly rectified + 10 per cent. oil of turpentine	116·0
" ..	One and a half year old	70·0
" ..	One and a half year old + 5 per cent. oil of turpentine	81·0
" ..	One and a half year old + 10 per cent. oil of turpentine	100·6
Oil of bergamot ..	Fresh	30·0
" ..	Fresh + 5 per cent. oil of turpentine	36·0
" ..	Fresh + 10 per cent. oil of turpentine	42·0
" ..	One year old	17·0
" ..	One year old + 5 per cent. oil of turpentine	22·5
" ..	One year old + 10 per cent. oil of turpentine	36·0
Oil of cajeput ..	One year old	10·0
Oil of caraway ..	One year old	8·5
Oil of cloves ..	Fresh	56·0
Oil of cassia ..	Fresh + 5 per cent. oil of turpentine	68·0
Oil of lemon ..	One year old	7·7
" ..	Half a year old	80·0
" ..	Half a year old + 5 per cent. oil of turpentine	104·0
Oil of eucalyptus ..	Half a year old + 10 per cent. oil of turpentine	125·0
Oil of fennel ..	One year old	13·0
Oil of juniper wood ..	One year old	31·0
Oil of lavender ..	One year old	130·0
Oil of mint ..	Fresh	12·0
Oil of peppermint ..	Two years old	10·0
" ..	.. .. .. ..	7·0
" ..	+ 5 per cent. of oil of turpentine	14·6
" ..	+ 10 per cent. of oil of turpentine	26·0
Oil of thyme ..	Fresh	55·0
Oil of mustard ..	Fresh	58·0
Oil of valerian ..	Three years old	15·0
Oil of turpentine..	Fresh	625·0
" ..	Quarter of a year old	540·0

In conclusion, the author states that all the essential oils as offered in the market contain traces of water, from the process of distillation, which gradually causes the formation of hydrogen peroxide, and to determine approximately the amount of the latter, and, consequently, the age of the oil in question, he employs iodide of potassium starch paper containing 2·0 g. of potassium iodide to 1·0 g. of starch.

The sample of oil to be examined is shaken up with its equal volume of distilled water, and the iodide of potassium starch paper moistened with the latter. Fresh oils give no coloration; white older oils yield a stain in proportion to their age.

THE FRUIT OF THE CALABASH TREE.*

THE calabash tree (*Crescentia cujete*) is found all over tropical America; the natives of those parts using the very hard shell of the fruit for making pots, plates, drinking-vessels, &c., and the pulp as a medicine.

Gustav Peckholdt has examined the fruit, and finds that 1 kilo. of calabash fruits consists of 229·166 g. of shell, and of 770·834 g. of pulp and seeds. One kilo. of the pulp contained:—

		Grammes
Soft resin (yellow) ..	.. .. .. ..	7·750
Resinic acid (brown) ..	.. .. .. ..	9625
Colouring matter (bluish black) ..	.. .. .. ..	4·516
Bitter extractive substance ..	.. .. .. ..	1·260
Aromatic extractive substance ..	.. .. .. ..	5·000
Tannic acid ..	.. .. .. ..	3·264
Fruit sugar ..	.. .. .. ..	18·074
Crescentic acid (crystallised) ..	.. .. .. ..	1·201
Tartaric and malic acids ..	.. .. .. ..	5·050
Albumine, dextrose, pectates, salts, &c. ..	.. .. .. ..	6·857
Water ..	.. .. .. ..	920000
Cellulose ..	.. .. .. ..	17·403

100 gr. of the fresh pulp yielded: 0·500 gr. of ash, and of the dry fruit 6·250 gr.

JAPAN LACQUER.

A JAPANESE, Hikorokurs Yoshida, sends the following note upon Japan lacquer to the *Pharmaceutische Zeitung*:—The lac is obtained from the milky juice (Urushi) of *Rhus vernicifera*, a tree indigenous to Japan; Yoshino yielding the best kind. The finest quality is ki-urushi. The juice is obtained by making incisions in the tree, and the percentage is but

* *Journ. Pharm. Chim.*, through the *Chemiker Zeitung*, July 13, 1884.

† *Pharmaceutische Post*, July 5, 1884.

* *Pharmaceutische Rundschau* (New York), August, 1884.

small. Pure urushi is a liquid of a specific gravity of 1·002 at 20° C. It darkens on exposure to the air, and, spread out in thin layers, dries up, forming the transparent, lustrous, and durable lacquer so much prized in japanned articles. Urushi consists essentially of a resinous acid called urushic acid, and of 3 to 8 per cent. of a nitrogenous substance to which its siccative property is due.

LIQUID PARAFFIN.*

LIQUID paraffin is a substance which, although admitted in the new German Pharmacopœia, is otherwise little known, even in chemical laboratories.

It is an oily liquid, and consists of a mixture of hydrocarbons of the methane group, boiling between 215° and 240° C., in vacuo, under a pressure of 6 m.m.

Liquid paraffin mixes with chloroform and ether, forming a clear liquid when these substances have been previously freed from all traces of water by metallic sodium; but the presence of a trace of water, or of alcohol containing water, causes turbidity.

Liquid Paraffin as a Test for Traces of Water.

Absolute alcohol dissolves but a small quantity of liquid paraffin, and when both substances are mixed in equal proportions, two separate layers of liquid are formed. The alcohol, however, dissolves a sufficient quantity of the liquid paraffin to render this solution an excellent reagent for testing the presence of traces of water in absolute alcohol, chloroform, and the like, a small quantity of it immediately causing a turbidity in these liquids when even a trace of water is present.

The Employment of Liquid Paraffin in the Preparation of Hydrobromic and Hydriodic Acids.

Since liquid paraffin renders even white phosphorus perfectly harmless even in the presence of chlorine, bromine, or iodine, the substance affords a suitable means of preparing hydrobromic and hydriodic acids in a far safer and more convenient way than has hitherto been possible.

A piece of white phosphorus is weighed under liquid paraffin, and the quantity of bromine calculated which is necessary for converting the phosphorus into phosphorus tribromide (10 g. of phosphorus require 77 g. of bromine and 18 g. of water). The phosphorus is then brought into a small flask, and covered with about half an inch of liquid paraffin; the flask is fitted with a doubly-perforated cork, through the one opening of which the end of an inverted Liebig's condenser is passed, while the other is fitted with an apparatus for dropping bromine into the flask. The bromine is gradually added, keeping the flask cool all the time, and then the water. Hydrobromic acid develops gradually, and is purified by being passed through a doubly-bent tube containing a small quantity of red phosphorus and anhydrous phosphoric acid. When as much hydrobromic acid has passed over as will distil without heating a sand-bath is used. The percentage of hydrobromic acid obtained is almost the theoretical quantity.

Hydriodic acid is prepared by a corresponding process.

In a letter to the *Times*, Messrs. J. S. Fry & Sons, the eminent cocoa and chocolate manufacturers of Bristol, say that, with the ready consent of their workpeople, 1d. per week is deducted from everybody's wages, and paid over half-yearly to the hospital funds. On June 30 they had collected by this means, in the half-year, the sum of 1067. 13s. 11d. The example is commended to other firms.

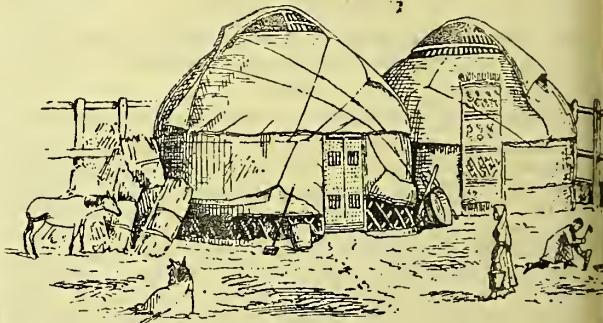
A correspondent of the *World* draws attention to an application "from William Booth, General to the Salvation Army and Minister of the Gospel," to be registered as the proprietor of a trade-mark, in which the designs of a cross and crown and the words "Blood and fire" form the principal part. The application is for Classes 12, Cutlery and edge-tools; 41, Furniture and upholstery; 48, Perfumery (including toilet articles, preparations for the teeth and hair, and perfumed soap)."

THE HEALTH EXHIBITION.

THE immense popularity of this famous exhibition continues unabated. Up to this date nearly three millions of visitors have been counted. One of our American medical exchanges quotes this success as a proof of the eagerness with which the British public study sanitary subjects, a compliment which, perhaps, might be toned down a little after actual experience. The exhibition is a very well-managed and most satisfactory entertainment, and it is, besides, furnished with ample provision for instruction; in the latter respect we doubt if it has ever been surpassed; but it is not evident that the public seek most eagerly the most instructive sections.

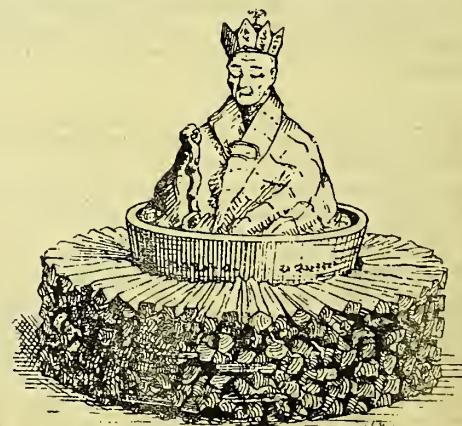
Since we last wrote the various Japanese sections have been set out, and are now in full work. There is a restaurant where Japanese dinners are provided at 4s. each, a pretty tea-house, a most interesting collection of the various appliances of education, with specimen results; and among the miscellaneous exhibits there is an important collection of Japanese and Chinese drugs, in charge of Messrs. S. Tsudsioka and J. Murai, the latter representing the Imperial Pharmaceutical Bureau of Tokio.

Another novelty lately introduced is quite a considerable encampment of Tartar koumiss-producers, which will be found just behind the model dairies. These are exhibited by Dr. Carrick, who has a large establishment at Orenburg, and he has installed in a large enclosure a considerable number of mares and foals, which are under the charge of two families —one Khrigiz and the other Bashkir. There is a large and comfortable tent for each of these families, and there is a



third in the grounds for sale. The tents appear to be constructed of a wooden framework covered with thick camel's-hair felt. They are carpeted, and seem warm and cosy, but when the sun shines brightly some of the covering is turned away from the top to admit light and air. Five times daily the women milk the mares, their Tartar lords standing gravely at the animals' heads the while. Our artist has sketched for us a bit of this original scene.

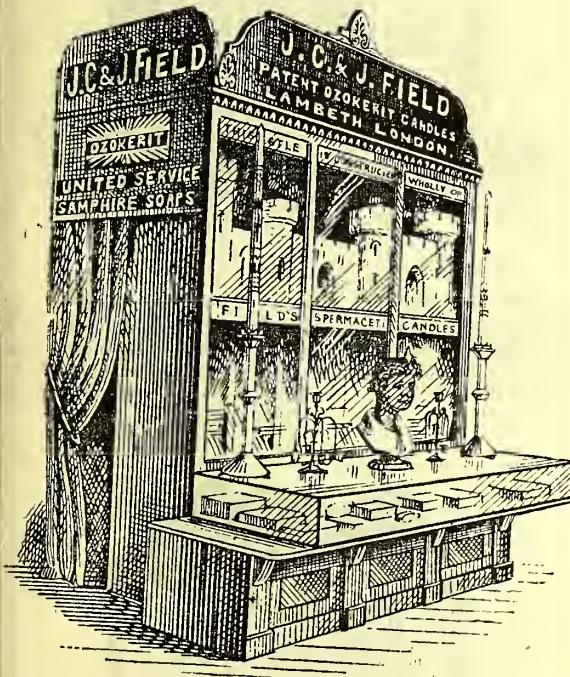
The same gentleman seems to have been struck with a



peculiarly hideous model of a Chinese corpse, prepared for cremation, which is to be found in the midst of the attractive

shops and models of interiors which the gaily-decorated Chinese court presents.

We must warmly compliment Messrs. J. C. & J. Field, of Lambeth, on the picturesque display they have made out of candles. Their case is not very prominently placed, but it is well worth seeking, and likely enough the investigating visitor will be rewarded with a pretty sample tablet of one of the excellent soaps made by this eminent firm. Their "United Service" soap has been a regular chemist's article for many years, and Messrs. Field may well trust their reputation to it. Neither they nor any other firm are likely to permanently beat that thoroughly good and agreeable product, but in their new "Samphire" soap they have presented an article which is likely to secure a good deal of popularity. The "Samphire" soap seems to be in all respects of as high a quality as the "United Service"; its odour, however, is quite distinctive, and decidedly ozone. We judge that eucalyptus has some share in yielding it. It is entirely made, we are told, from pure vegetable oils combined with alkali taken direct from the ashes of seaweeds and marine plants.



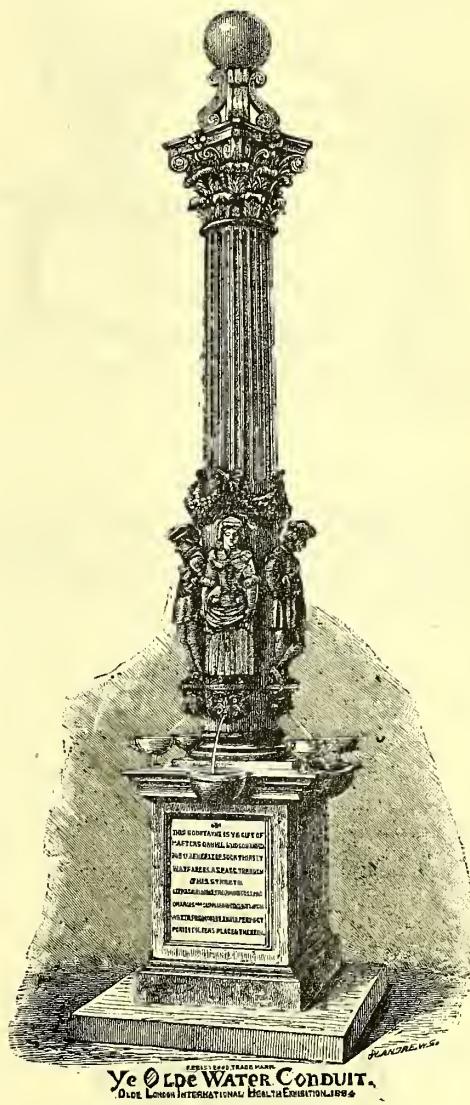
Messrs. J. C. & J. Field have been candle-makers for two centuries, and they have been to the fore in every improvement. The upper section of their case represents a castle constructed entirely of spermaceti candles. This unique structure contains over 1,000 separate parts, and from battlement to portcullis is of a pure alabaster white. Except in the matter of price, no other candle can compete with these. Snow white, transparent, unbending, soft and lustrous of flame, and so regular in burning that it has become the universal standard for gas-testing, the spermaceti candle falls little short of perfection in its kind.

Ozokerit, with which the name of Field is so closely connected, is represented by a bust of an Abyssinian chief, cast entirely of erude and refined ozokerit, the head being jet black, the robe creamy white. This gives an excellent idea of the alternate plasticity and hardness characteristic of ozokerit.

Two candelabra on Messrs. Field's stall, filled with spermaceti candles, each furnished with their "Lychnophylax," or candle-guard, illustrate the usefulness of that device, for, although exposed to furious draughts from all sides, not a drop of grease has overflowed, and the candles burn evenly to the end.

Messrs. D. Judson & Sons have cleverly insinuated an advertisement of their filters in the most prominent spot in

the exhibition. They have secured permission to erect a drinking-fountain in the middle of the old street, and, as the engraving will show, the design is quite in harmony with its immediate surroundings. The fountain has been quite a

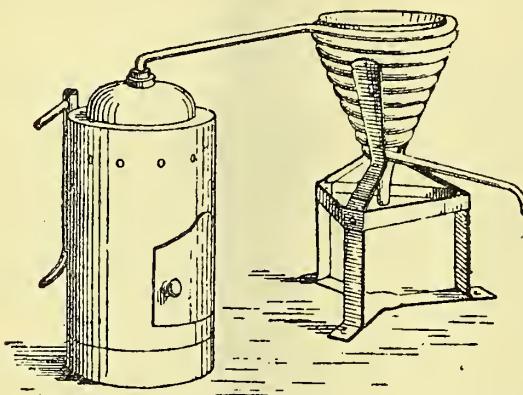


valued feature in this most popular thoroughfare. On the faces of the statue the following inscription is engraved:—

"This fountain is y^e gifte of Masters Daniel Judson and Sonne for y^e benefit of such thirstie wayfarers as passe through this streeete, and was builded at their own cost and charge, and supplied with swete and pure water from one of the perfect purity filters placed therein."

This fountain or conduit is said to be a *facsimile* of one which stood at the junction of Bishopsgate, Gracechurch, Leadenhall Streets, and Cornhill. It represents a Corinthian column, round the lower part of which are grouped figures representing "Prentices and Maids"; the column is surrounded by a gilded sphere. The figures stand on grotesque masks, from the mouths of which the water proceeds and falls into little hollow basins projecting from each side of the pedestal.—(there were also eight small pipes on the top of the capital, from which water was ejected, but these have been omitted). The whole is executed in stone from the drawings of the eminent architect, Mr. George H. Birch, by Mr. Thomas Williams (builder of "Olde London"), and sculptured by Mr. Owen Thomas and his son Frederick.

The sketch following shows a little piece of apparatus in M. Pasteur's most interesting collection, such as he employs for keeping a fluid hot during filtration. As will be understood, the funnel simply rests in a steam-heated metallic worm.



At a very prominent corner of the large nave explanations have been offered of a new feeding-bottle, which has most distinctive merits. It is called the "Blue Bell Hygienic Feeding-bottle," and is shown by Messrs. Charles Riley & Co., of Langley House, Vauxhall.

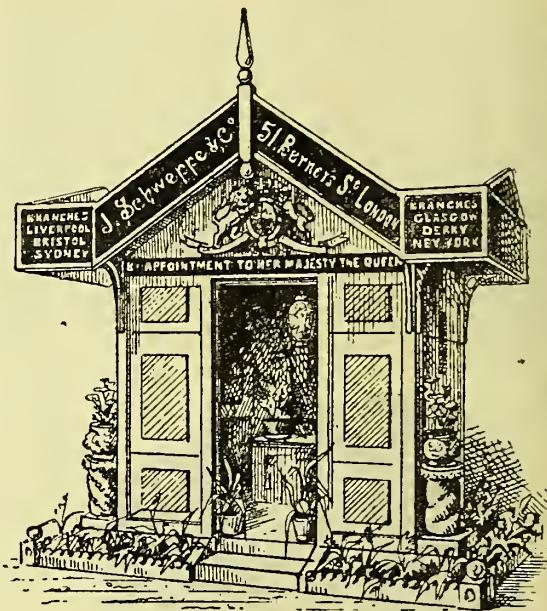


The stopper is of earthenware, and screws into the bottle, a firm joint being secured by a pure rubber washer. Air is supplied by a capillary groove in the earthenware, which the rubber washer never closes entirely. The stopper is perforated for the passage of the milk, but the rubber tube does not pass through it. The glass pipe within the bottle, and the rubber tube without, both fit over the conical ends of the stopper, and can be readily removed and replaced.

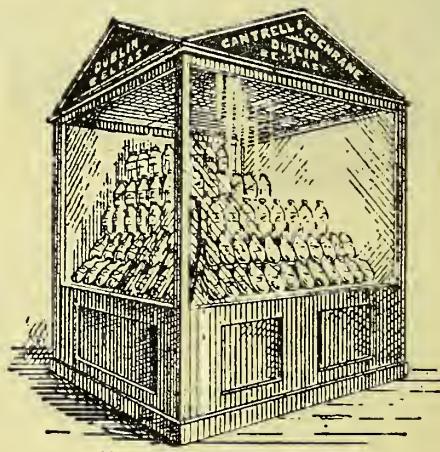
The teat is also held in place by a series of simple interlocking-joints, so that the more the nipple is pulled the tighter are nipple, shield, and tube held together. We have certainly never seen a bottle all the parts of which could be so easily cleaned and adjusted.

We have already mentioned that aerated waters are very prominent at this exhibition. Messrs. Schweppes & Co., whose old reputation as the honoured leaders of the trade still

stands intact, have erected a pretty pavilion in the grounds for dispensing their products. This is represented in the



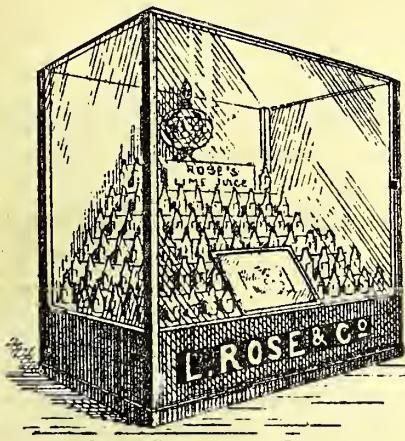
accompanying sketch. Messrs. Cantrell & Cochrane, of Belfast, who are probably the largest manufacturers of a special aerated-water beverage in the world, have been content with a very modest display. We give this sketch to show what an "exhibit" should not be. Messrs. Cantrell &



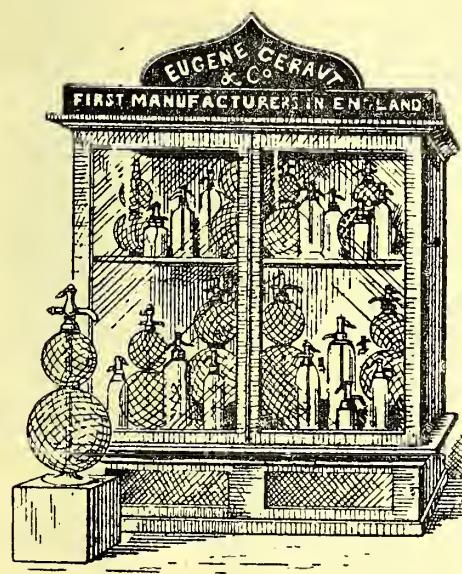
Cochrane's ginger ale is far too well established to need any puffing, but how anyone could acquire any notion of its merits from this display is more than we can understand. This criticism might have been directed against scores of other manufacturers; we have selected Messrs. Cantrell & Cochrane because they cannot have any purpose in burying their products in a glass-case.

A similar remark does not apply to the case containing Messrs. L. Rose & Co.'s lime-juice, which, though equally inaccessible, strikes every passer-by by the bright golden appearance of the liquid, set off as it is by the coloured capsules of the bottles, as well as by their corrugated surface. This article makes a very effective display when shown

in bulk. This Rose show is surmounted by a vase containing some very fine preserved limes.



We conclude for the present with a sketch of Mr. Gerant's



small but showy collection of syphons and seltzogenes, in all varieties of colour, size, and finish.

THE true use of a porous plaster, according to a Milwaukee druggist, is "to retain the back in its proper place and let the pain crawl out through the holes."

MESSRS. W. & D. HARVEST write to the *Times* to say that on September 2 2,000 bags, equal to about 240,000 lbs., of pepper, being salvage recovered from the recent fire at New Crane Wharf, were sold at Wapping by public auction, and realised prices in some cases within 20 to 25 per cent. of the market value. The pepper was saturated with Thames water, the sewage or impurities in which had so impregnated the article as to have destroyed its essential properties and rendered it utterly unfit for human food, and in this belief the writers say they directed the auctioneer's attention to the fact, and suggested that the sale should be postponed until an analysis could be obtained. This, however, was objected to, and the sale was continued, with the above results. Pepper buyers had better taste their purchases for some little time to come.

Suggestions.

BACTERIA AND WATER IN MOTION.—According to the *Chemisch-technischer Central Anzeiger*, Dr. Pohl, of St. Petersburg, has found that when water containing bacteria is kept in rapid motion the bacteria diminish, and, by using a centrifugal machine, he has succeeded in getting rid of 90 per cent. of bacteria in a very impure water within an hour. This may, perhaps, prove a useful hint to brewers and others.

TO PREVENT IRON FROM RUSTING.—The *Chemisch-technischer Central Anzeiger* suggests the use of milk of lime, it having been found that an iron tube leading from a stove running through a room in which a good deal of moisture was always present, although lacquered, always required renewing from year to year, whereas a similar tube, which had been painted over with milk of lime, held out in the same room for five years.

TO PRESERVE EGGS.—According to *Mittheilungen über Landwirtschaft, &c.*, vaseline is a good preservative for eggs. The eggs should be thoroughly washed and rubbed in with vaseline, previously melted with $\frac{3}{10}$ per cent. of salicylic acid. The operation should be performed twice, the latter one month after the former. On boiling, the skin of vaseline easily separates from the eggs. Eggs thus treated are said to keep perfectly fresh for a year.

PRESERVATION OF LIME-JUICE.—The *American Druggist* says:—Lime-juice may be clarified by heating it, either alone or mixed with a small quantity of egg albumen, in a suitable vessel, without stirring, to near the boiling-point of water, until the impurities have coagulated and either risen to the top or sunk to the bottom. It is then filtered into clean bottles, which should be completely filled and closed (with pointed corks), so that each cork has to displace a portion of the liquid in order to be inserted. The bottles are sealed and kept at an even temperature (in a cellar).

RANCID CASTOR OIL can easily be purified says the *American Druggist*, by heating 100 lbs. to 80° Fahr. in a boiler; then a mixture of $\frac{1}{2}$ lb. of alcohol (96 per cent.) and $\frac{1}{2}$ lb. sulphuric acid is added and crutched in. The mixture is allowed to settle and the oil is drawn off from the impurities which have settled at the bottom. The oil is again washed by boiling it uninterruptedly with water for half an hour. After resting, the oil is again drawn off. Rancid oil treated in this way is fit for use in the manufacture of transparent soap.

PURIFYING OILS.—According to the *Corps Gras Industries*, oils which hold in solution fatty acids or other substances may be easily purified by the process of Vialis Frères, in being filtered through sawdust impregnated with a solution of soda. Barrels sawn in two can be used, the bottoms of which are pierced with holes. In the bottom is placed a layer of flannel on which a layer of sawdust is placed, 6 or 8 inches in thickness. If a colourless oil is desired, a thin layer of animal black is placed upon the sawdust. By placing two or three of these vats above each other a perfectly pure oil is obtained.

WOOD STAINS IN A DRY FORM.—Andes (Erfindungen und Erfahrungen) gives the following formulae for some wood stains, which may be put up in a dry form, and when wanted for use may be readily dissolved in water:—

Oak Wood.—Five kilos. of Cassel brown, 0.5 kilo. of potash, and 10 kilos. of rain-water, boiled together for an hour, the whole strained through a linen cloth, and the clear, dark-coloured liquid boiled to a syrupy consistency.

Walnut Wood.—A decoction of Cassel brown, 3 kilos.; potash, 0.3 kilo.; and water, 7 kilos.; the whole strained through linen, and during evaporation to syrup 2.5 kilos. of extract of logwood added.

Mahogany.—A decoction of extract of Brazil wood, 3 kilos.; potash, 0.25 kilo.; and water, 3 kilos.; to which, before evaporating to syrup, 150 g. of eosine are added.

Ebony.—Five kilos. of extract of logwood boiled with 11 kilo. of water, and, when near the syrupy state, 300 g. of iron nitrate added; evaporated to a syrup under constant stirring.

All the above stains are brought into a dry condition by

running the respective syrups into trays of sheet iron, with low rims, in which the syrup hardens, and is afterwards broken up and ground.—*Pharm. Centralhalle*, June 12, 1884.

GLYCERIDE OF TOLU FOR SYRUP.—M. Van der Velde proposes the following in the *Journ. de Pharm. d'Anvers*:

		Grammes
Bals. tolut.	.. .. .. .. ..	1550
Liq. potassæ	.. .. .. .. ..	3700
Glycerini	.. .. .. .. ..	22200
Aquaæ	.. .. .. .. ..	q.s.

Mix the solution of petash with 150 grammes of water, and add to the balsam in a capsule, warm gently, and stir till solution. Add the glycerine, and still warm gently till the mixture is reduced to 300 grammes. Filter before cooling.

One part of this glyceride added to 15 parts of simple syrup gives a uniform and excellent syrup.

TRADE-MARKS APPLIED FOR.

IT seems desirable that we should print the applications for trade-marks, in the drug and similar trades, as they appear in the official journal. The following have been published this month:—

From the "Trade Marks Journal" September 3, 1884.

Applicants	Description of Goods	Number of Applications	Mark
Badische Anilin und Soda Fabrik, Ludwigshafen and Stuttgart	Aniline and other colours other than mineral colours	38,941	Title of firm round design of angel
Brierley, John Henry, 58 Aldermaubury	Body-belt for curative purposes	38,755	"Brierley's Zoetic Belt"
Chadwick, Robert, & Son, Kidderminster	A chemical preparation for disinfecting purposes	38,840	Circle, enclosing portrait of Richard Baxter, with words "Hygienic Crystals Disinfectant, R.C.S.K., established 1862"
Dimbleby, S. N., trading as "Alexander, Jas., & Co." 18 Paradise Street, Lambeth	Common soap and perfumery	38,782	Design enclosing words, "Semper Fidelis" and "Hummelmeiss"
Hewlett, C. J., & Son, 40 Charlotte Street, E.C.	Chemical preparations for use in medicine and pharmacy	38,842 and 38,843	Labels of "Liq. Santal Flava cum Bunchet Cubeba," and "Mist. Pepsina Co. c. Bismutho"
Hooker, John, trading as "The Pure Standard Food Company," 19 Buckingham Street, Charing Cross	Substances used as food	38,570	Letters "P.S.F.C." in monogram, with words "The Pure Standard Food Company," London
Jamieson, Malcolm, trading as "Jamieson Brothers," 25 Marden Lane, Covent Garden	Medicines for human use	38,243	Design enclosing words "Electric Herbal Remedies, Trade Mark," and letters "J.B."
Laurent, Cyprien, trading as "The London Manufacturing Company," 59 and 60 Hatton Garden	Sauces, preserved provisions, essences of beef, mutton, chicken, &c.	38,721	Design showing lion and sun, with words "Lion Brand" and name of company
Naylor, J., Chowbent, Lancashire	Aërated waters	38,899	Design of horsehoes
Pears, A. F., Great Russell Street	Candles, common soap detergents; certain oils; matches, starch, blue, &c.; also for perfumery	38,738 and 38,739	Design, woman and boy, with words "The Clean Boy"
Sikes, Olive Logan(widow), 21 Michael's Grove, Brompton, trading as "Cole & Co." 21 Cock Lane, E.C.	Medicine for human use	38,954 and 38,983	"Cole's Vital Spark, the wonderful stomachic pain subduer." "Cole's Celebrated Sweet Repose—a simple syrup."
Welham, W., Gordon Grove, Brixton	Food for canaries, &c.	38,866	Label, "Noted Atlas Mountain Bread," &c., white letters on black

From the "Trade Marks Journal," September 10, 1884.

Applicants	Description of Goods	Number of Application	Mark
Bigwood, J. D. H., 24 Queen Victoria Street	Toilet articles	38,734	"Army and Navy Toilet Club," with two flags
Brooks, Sarah, trading as "Brooks & Co." 110 Darncombe Street, Manchester	Plate-powder	38,593	"Cosmaque"
Churchill, H., & Co., Brisbane, Queensland	Medicinal oil	38,876	Label with design and words "St. Patrick's Oil"
Clarke, T. V., chemist, 5 Lawn Terrace, Blackheath	Salt for bathing	38,746	Oblong, enclosing words "Sea Mediterranean Salt"
Cort, P. H.	Aërated waters	38,792	Monogram "P.H.C."
Hinkley, Walters & Co., 10 Upper Baker Street, N.W.	Horse & cattle medicine	37,167	"The Rampant Horse," with design of Wm. Ward's Dry Soap
Hudson, R. S., West Bromwich	Dry soap, &c.	37,828	Label of Wm. Ward's Dry Soap
Hume, R., chemist, 41 Cowcaddens Street, Glasgow	Cure for corns, &c.	38,888	White monogram "R.H." on black diamond
Lindsey, J., Fleet, Lincolnshire	Medicinal Preparation for human use	38,285	"Lindsey's Eureka" en scroll
Morrell, T., chemist, 1 South Street, New North Road, N.	Cattle medicine	38,897	Design, cart horse, with name of proprietor on back
Partridge, Henry Francis, trading as "The South Kensington Ladies' Dental Institution, Association, Infirmary, and Hospital," 43 Sussex Place, S.W.	Artificial teeth, &c.	38,168	Title of the Institution, with signature of proprietor
Paton, J. C., & Son, 7 Portland Street, Manchester	Chemical preparations for laundry purposes	38,425	"Paton's Soap Economiser" under coat of arms
Popham, B. F., L.A.C. (retired), Nottingham	Medicine for human use	38,475	"Frank's Iron Compound" on scroll surrounding design, with words "Lux Naturæ"
Robinson, W., Camp Street, Deansgate, Manchester	Soap and extract of soap, &c.	36,494	Monogram, with view of Manchester Docks
Sikes, Olive Logan, trading as "Cole & Co." 21 Cock Lane, E.C.	Perfume	39,054	Design, a heart enclosing words "My Sweetheart Perfume"
Sikes, Olive Logan(widow), trading as "Cole & Co." 21 Cock Lane, E.C.	Pills Perfumery Tooth - powder	38,445 39,055 39,056	Design, four figures holding globes, with signature of firm
Universal Polishing Powder Company, 71 Waterloo Street, Glasgow	Preparation for cleaning and polishing windows, &c.	38,005	The label
Walker, R. W., trading as "Storrs & Co." 14 America Square, E.C.	Cure for tooth-ache, &c.	38,365	Circle, with words "Denti Pax"

THE EMPEROR OF BRAZIL has offered a contribution of 1,000f. towards a statue of Dumas the chemist.

THE DRUG TRADE IN SCANDINAVIA.—A correspondent who has lately visited Denmark, Sweden, and Norway writes:—"Although THE CHEMIST AND DRUGGIST is subscribed to by some of the leading apothecaries in Scandinavia, and by these gentlemen the literary portion is much appreciated, still I am sorry to have to report next to no business exists between England and these not unimportant markets. Drugs, &c., are chiefly imported from Hamburg; chemicals come largely from Saxony. There is hardly an apothecary in Scandinavia who cannot read English, but some are more fluent in German or French. The main difficulty is with our weights and measures, and there remains the fact that no efforts appear to be made to secure business in drugs, chemicals, or sundries. Mr. J. Lothe, of Bergen, informed me that a friend of his had called on one leading London firm to ask that some information be sent. The information was promised, but never forwarded, or, at least, the letter never reached Mr. Lothe. This gentleman, pointing to an English list, asked me whether 1/4 per oz. meant weight or measurement."



MAW'S NEW INHALERS.

FOR the forthcoming season Messrs. S. Maw, Son & Thompson have introduced two new earthenware inhalers, a description of which we append.

Maw's Invalid Inhaler will be new to most chemists, though it has been in their show-rooms for a few months. Its pecu-



liarity consists in the shape, which is probably the most convenient that could be devised for use in bed. The broad, flat base prevents any possibility of the inhaler being upset under ordinary circumstances; the top is ingeniously constructed so as to be most convenient for filling and cleaning; a lid, shaped like a funnel without a stem, acts as an air-hole, and provides a narrow circumference in the upper portion of the inhaler for the accumulation of steam, which is inhaled through the mouthpiece at the side. By the use of an elastic tube with extra mouthpiece, which is supplied separately, this inhaler can be conveniently used by a patient in bed. The second inhaler which we have to notice is quite new as regards the fitting. It is the same shape as the well-known "Maw's Improved," which has proved to be the most perfect form for the easy and successful application of inhalations generally. It provides a broad surface for the



evaporation of the hot liquid into steam, and a narrow space for accumulating it and keeping it hot, thus facilitating as far as possible the act of inhalation. Messrs. Maw's object has been to produce these inhalers so that they can be sold at a much lower price than heretofore; and by introducing a

few simplifications, and having them made in very large quantities, they offer these so that they can be sold retail at 2s. 6d.

The use of inhalation in the treatment of many bronchial and throat affections is much on the increase, and we think chemists would promote that most valuable method of treatment, and do a useful service to medical practitioners all over the country, by showing them this efficient and economical form of apparatus.

Foreign and Colonial.

THE AMERICAN DEMAND FOR QUININE.—In 1883 the quinine imported into the United States amounted to 1,055,764 oz.

THE GERMAN APOTHEKER VEREIN was opened at Dresden on September 3, and was attended by 341 members. Business discussions occupied the greater part of the time, but three scientific essays were read, one by Dr. Geissler, of Dresden, on "Testing Pepsine"; one by Dr. Reichardt, of Jena, on "The Value of the Refuse in Factories"; and one by Professor Gutzeit, of Jena, on "The Progress of Pharmacy."

RUSSIA AND MODERN SCIENCE.—*Nature* says that an Imperial decree, issued last month, interdicts the delivery from Russian circulating libraries to their subscribers of the scientific works of the following authors:—Agassiz, Büchner, Huxley, Lubbock, Lewes, Moleschott, Reclus, Adam Smith, Spencer, Vogt, and Zimmermann. The works of Charles Darwin have already been submitted to the same interdiction.

DENTAL CHARGES IN AMERICA.—A New York dentist named Dr. Atkinson was called upon lately by the wife and two daughters of General Blanco, the President of Venezuela, to have their mouths attended to. There was a great deal to do, it appears, and not much time to do it in. The General and his family had arranged to sail from New York a few days later, so Dr. Atkinson put off all other business and devoted himself to this group. The end was that he sent in his bill, amounting to \$7,000. General Blanco, it is reported, has left \$1,500 in the hands of a business firm to settle the matter, amicably if possible, but Dr. Atkinson indignantly refuses to compromise, and a law-suit is probable.

A NEW PHARMACEUTICAL SOCIETY.—The German Naturforscher Versammlung (Physical Science Advancement Association) is to meet at Magdeburg on September 20, and an influential committee has been formed with the intention of founding a "Pharmaceutical Society" with exclusively scientific objects. The committee include such names as Böttger, Danckworth, Dragendorff, Geissler, Hager, Mylius, Schacht, Schering, &c. All interested in scientific pharmacy are invited to attend the meeting at Magdeburg, or to send in an expression of their views to Dr. Tschirch, 36 Invalidenstrasse, Berlin.

SALICYLIC ACID IN WINE.—A contributor of the *Times* says that salicylic acid has been used to such an extent to prevent the second fermentation of wines in France, each dealer, as the wine passed through his hands, adding a little, that as much as 2 grammes have been found in 1 litre. By a recent decision of the Cour de Cassation, based on legislative enactment, it has now been rendered a penal offence, in France, to mix be it ever so small a proportion of salicylic acid with any article of diet. This rigorous verdict might not have been rendered but for the discoveries of M. Pasteur, who has shown how wine may be safely preserved without the addition of any chemical whatsoever. After minutely studying the microbes which cause the fermentation in wine or the deterioration of its quality, notably the microbe that imparts a bitter taste to Burgundy, M. Pasteur discovered that all mischief could be prevented by simply warming the wine for a few moments. Boiling is not necessary—a heat of 132° to 142° Fahr. is sufficient; but, of course, the wine must be kept in closed vessels, and no air allowed to approach. For private persons who are doubtful about a few bottles of wine nothing is easier than to carry out this method. If the bottles are well corked, it suffices to immerse them in a saucepanful of cold water, which must be

gradually warmed up to about 140° Fahr. This will completely destroy the germs within the wine without in any way injuring its flavour and quality. For warming the wines on a large scale ingenious apparatus have been devised.

A FATAL DISPENSING ERROR.—We quote the following from the *Practicien*, a medical journal of Paris. M. Dargent, Councillor Referee to the Court of Accounts, was father of a child of two years of age. In March last the child was ill, and Dr. Dujardin-Beaumetz, the family physician, prescribed an alcoholate of aconite and suppositories of hydrochlorate of quinine. A servant obtained these remedies at the pharmacy of M. Petit, rue Favart, where they were prepared by the pupil Courty. When the medicines were brought the child was much better, and the remedies were put away in a drawer. On May 10, however, the child was ill again, and the doctor ordered these same applications. A few days later the child died in horrible pain. Lately, M. Courty has appeared before the Correctional Tribunal charged with having caused the child's death by dispensing hydrochlorate of morphia instead of hydrochlorate of quinine in the suppositories, and evidence of this charge was given. He was sentenced to one month's imprisonment and 300f. penalty, and M. Petit was declared civilly responsible.

BERLIN PHARMACIES.—A German journal has the following on the signs of the Berlin "apothekes." Of the 68 in the city only 8 show the name of the proprietor; 11 are named from the street or suburb where they are located, as, for instance, the "Alexandrinen-apotheke." Eagles seem to be the favourite signs. There are 3 black eagles, 1 crowned black eagle, 2 eagles simply, 2 red ones, and one each white, golden, and Imperial eagle. There are 5 other birds: a swan, a white swan, an ostrich, a pelican, and a griffin. Quadrupeds are represented by a stag, a white stag, and a golden stag, a unicorn, an elephant, and a lion. Mythology furnishes the titles of seven: Esculap, Minerva, Flora, Fortuna, Concordia, Germania, and St. George. Royalty is sponsor for the Elector, the Augusta, the Elisabeth, the Victoria, the Emperor William, and the King Solomon. Men of science are only honoured by the names of Wrangel and Humboldt. Green and red represent colours, and Polish and Swiss compliment foreign countries. The Sun, the Golden Star, and the Angel are all that suggest celestial life, and the Rose, the Residenz, and the Johanniter complete the category.

THE STRASSBURG MURDER.—At the time of the assassination of the pharmacist Lienhardt in Strassburg last October (see THE CHEMIST AND DRUGGIST, 1883, pages 565 and 613) no one supposed that this foul deed was but a link of a series of the most brutal murders which had already begun. An anarchistic triumvirate—Stellmacher, a shoemaker, of Zurich; Kammerer, an Austrian subject, but working as a bookbinder at Berne; and a third person, not yet discovered—were the perpetrators of the murder. Their object was to obtain means for the more rapid overthrow of society, as advocated by some of their leaders, and their scheme was first to rob, and, if necessary, murder, a few pharmacists, in order to obtain, not only some cash, but also, they hoped, some powerful hypnotics with which they might more readily accomplish their ulterior objects. Strassburg, probably from its being the largest city in the vicinity of Switzerland, was selected for their purposes. Stellmacher appointed with Kammerer to meet him and another on October 20, and early on October 21 the three arrived at Strassburg. They first made themselves familiar with the city, ascertained the pharmacies most likely to be convenient for carrying out their plan by visiting them as beggars or customers, and then fixed on the next night (October 22) for their crime. In order to get over the ground as quickly as possible, they tried to get possession of a cab by chloroforming the driver, which, however, did not succeed, for, on the chloroformed handkerchief being placed under his nose, the cabman cried out with all his might and drove to a police station to give information. Most unfortunately for poor Lienhardt and the other victims of the three villains, the cabman, on arriving at the police station, only found there a drunken policeman, who did not believe his tale, but told him that he (the cabman) was drunk and dismissed him. Meanwhile the criminals had set forth from their hiding-place, previously agreed on, and to which each had simply resorted on hearing the cabman's cries, and on their way came across a sentinel on duty, whom they tackled and, after a fierce fight, killed; they then went

off to the Stork Pharmacy, and there, under circumstances already narrated, assassinated the assistant Lienhardt. Having proceeded so far they seem to have thought it imprudent to make any further visits, and they set off over fields, hedges, and ditches in the direction of Basel, and in their hurry and confusion overshot the first station, Grafenstadt, and arrived at Fegersheim at about 5 o'clock the next morning, wet through, up to their ears in dirt, and besmeared with blood, two of them having even forgotten to throw away their sham beards. The murder in the Strassburg pharmacy was discovered at half-past twelve the same night (shortly after its perpetration), and had the telegraph been put properly to work the villains might have been easily seized in Fegersheim, where their appearance and departure with the train for Basel naturally attracted a good deal of attention, and thus the brutal attempted murders of the bankers Oettinger and Heilbronn in Stuttgart, and the achieved assassinations of the banker Eisert, and the criminal detectives Hlubeck and Blöch in Vienna have been prevented. It was in consequence of the latter murders that they were arrested in Vienna. Kammerer confessed to the Strassburg murder, and Madame Lienhardt, sent for, recognised Stellmacher as one of the men who came to the pharmacy the night of the murder. Stellmacher and Kammerer have since received the merited rewards of their deeds on the gallows.

Personalities.

MR. HENRY BRITTAINE, representing Messrs. Christopher Baker & Sons, of Birmingham, is about to start on a tour in the Far East, carrying the samples of various manufacturers; among others, Messrs. Bates & Co.'s Breast Salve, and Mr. A. P. Towle's Chlorodyne.

THE late Sir ERASMIUS WILSON leaves a large fortune, the bulk of which, estimated at about 180,000*l.*, will ultimately come to the Royal College of Surgeons. He has also left 5,000*l.* each to the Royal Medical Benevolent College, the British Medical Benevolent Fund, and the Royal Sea-bathing Infirmary, Margate.

THE business of the late Mr. H. D. HUGHES, at 74 Deacon Street, Walworth, S.E., has been disposed of, through the agency of Messrs. Taylor & Co., of 38 Walbrook, E.C., to Mr. John Edmunds, of New Cross, S.E.

MR. HENRY PEARMAN, formerly of Newport (Mon.), has purchased the business of Mr. G. B. Cockedge, at Market Place, Wokingham, through the agency of Messrs. Taylor & Co., of 38 Walbrook, E.C.

MR. W. N. EMSON, of Dorchester, has purchased Mr. R. T. Hudson's business, at 102 Lothian Road, Brixton, S.W., through the agency of Messrs. Taylor & Co., of 38 Walbrook, London, E.C.

MR. W. F. STEER has disposed of his business at 77 Atlantic Road, Brixton, S.W. (through the agency of Messrs. Taylor & Co., of 38 Walbrook, E.C.), to Mr. W. Young, of Chiswick, W.

EDWARD SPRAULE, surgeon's assistant, and Edward Thomas, a chemist and druggist, who were charged at Clerkenwell on Thursday with performing an unlawful operation on a young woman, were committed for trial.

MR. ALEXANDER BOEHRINGER, late of the Fabbrica Lombarda, is reported to have accepted the managing directorship of the Mannheim Chemical Fabrik (makers of magnesia, &c., not the Mannheim quinine factory).

MR. W. H. WILHELM, late of Dordrecht, Cape Colony, has removed to Minard, where he has bought a farm, and turned his attention to rearing horses, cattle, and sheep. He has opened a chemist's shop to supply his neighbours with drugs. The nearest doctor lives 40 miles away. His business at Dordrecht was purchased by Messrs. Mayer & Marsh, of Queenstown, who have placed Mr. R. James in charge.

FOR the second time on record a swimmer has succeeded in crossing from Southsea to the Isle of Wight—a task made extremely difficult by the strong currents. The first to accomplish it was Mr. George White, Portsmouth Swimming

Club, and yesterday Mr. Horace Davenport, the well-known ex-champion, was equally successful. Mr. Davenport started from the South Parade Pier at 12.25, and swam remarkably well the whole distance, finishing at 2.37, having thus taken only two hours and twelve minutes in crossing. He was quite fresh at the finish.—*Evening Standard*, August 22. Having thus felt his way, Mr. Davenport undertook to swim from Southsea to Ryde and back. This feat he accomplished on September 2, although he was unwell when he started, and there was a choppy sea. The difficulty of this swim is greatly enhanced by the peculiarity of the tides. Captain Webb once tried it, but was quite unable to reach Ryde. Mr. Davenport made the journey from Southsea to Ryde and back in 5½ hours, never leaving the water. The Portsmouth Swimming Club have awarded him a gold medal. [Mr. Davenport is the well-known chemist of Great Russell Street, and chairman of the Chemists' Aerated Waters Association (Limited).]

Obituary.

ALLWOOD.—On August 10. Mr. John Allwood, chemist and druggist, Stafford. Aged 64 years.

ALPASS.—On August 31, Mr. Horace Seymour Alpass, Liverpool. Aged 69 years. Mr. Alpass was in business as a chemist and druggist in Toxteth Park, Liverpool, for many years, but retired about ten years since. He served for a time on the Liverpool Town Council, and for many years on the Toxteth Local Board and in other public offices. He was prominent among the Masons, and had held the position of Grand Standard-bearer of England, and was also Grand Secretary of West Lancashire. His funeral was attended by some 500 of his masonic brethren, and by a large number of other friends.

BENTHAM.—At his residence, Wilton Place, London, on September 10, Mr. George Bentham, F.R.S., F.L.S., at the age of 83. It is only a year ago that he and Dr. Hooker finished the immense "Genera Plantarum," commenced so long ago as 1862. He had been an earnest student all his life, and his memoirs on special genera have been distinct additions to our knowledge. His "British Flora" is well known to most English botanists. His collections were added to those at Kew in 1848. The "Genera Plantarum" will be an enduring monument to his name.

BERRY.—On September 5, Mr. John Parton Berry, chemist and druggist, Northampton. Aged 53 years.

BILL.—On August 7, Mr. Samuel Bill, chemist and druggist, Bloxwich. Aged 76 years.

BINSTEAD.—On June 26, Mr. Arthur Binstead, chemist and druggist, Ebury Street, Pimlico, London. Aged 52.

BUCKLAND.—On July 18, Mr. George Buckland, chemist and druggist, Salisbury. Aged 87.

COLLIS BROWNE.—Dr. John Collis Browne, the inventor of the formula for chlorodyne with which his name had become so closely associated, died, on August 30, at his residence, Mount Albion, St. Lawrence-on-Sea, Ramsgate, at the age of 66. Dr. Collis Browne was an army surgeon until 1857, and was attached to the 98th regiment. In that capacity he saw service in China and India, where he was noted for his fearless manner in dealing with and training the deadliest snakes—a collection of which he made and transmitted to this country. After retirement from the army, Dr. Browne busied himself with many inventions, chiefly in connection with ships' propulsion. We do not know that he ever studied engineering, but it is certain that his inventions in regard to screws, raising ships, and his designs for their building, are of considerable value. He planned the method of raising ships by inflating indiarubber bags with carbonic acid gas, which has many times been used, though by some accident the process was never protected. He invented a screw which, by reversion, brings a steamer to a stop almost suddenly. His new cigar-shaped yacht lies in Ramsgate Harbour at this time. Dr. Browne worked at these inventions with all the ardour of a man whose living depended on his success. As a matter of fact,

he spent large sums in the execution of his ideas, which he was enabled to do out of the splendid income which his share in the chlorodyne business yielded. The Doctor leaves behind him a widow and four step-children, who deeply feel their loss, and a son and daughter by a former marriage—the son, Mr. Alfred Browne, inheriting, in conjunction with Mr. Davenport, the eminent chemist, the rights appertaining to the chlorodyne.

DOWTY.—On July 19, Mr. Robert Dowty, chemist and druggist, West Allington, Bridport. Aged 63.

EDWARDS.—On June 8, Mr. Thomas Edwards, chemist and druggist, Usk, Mon. Aged 36.

EVANS.—Two months since, in a sketch entitled "Fifty Years of Wholesale Drug Trade," we had occasion to mention that Mr. John Hilditch Evans, who formerly took an active part in the management of the business of Evans & Lescher, was "living a happy and quiet life in Worcestershire, his native county." We have now to report the death of this gentleman, which occurred at his residence, Bryn Issa, Pershore, Worcestershire, on September 5, in the seventieth year of his age. Mr. John Hilditch Evans was a member of the Pharmaceutical Society, and for many years partner in the firm of Evans, Lescher & Evans (now Evans, Lescher & Webb), 60 Bartholomew Close, E.C., and of Evans, Sons & Co., Liverpool. He was well known in Mincing Lane and on the Royal Exchange, where he was highly respected. He retired from business in 1870, and has since resided at Pershore. He leaves a widow to mourn his loss.

FIELD.—On March 13, Mr. Henry Field, chemist and druggist, St. Leonards. Aged 35 years.

FIELDER.—On July 11, Mr. Walter Fielder, chemist and druggist, Landport. Aged 49.

FRANCIS.—On June 25, Mr. John Francis, pharmaceutical chemist, Wrexham. Aged 47.

HALLEY.—On June 15, Mr. William Halley, chemist and druggist, Leith, N.B. Aged 63.

KENRICK.—On August 9, Mr. Henry Kenrick, chemist and druggist, Yalding, Kent. Aged 74.

LEDGER.—On August 6, Mr. Edmund Ledger, chemist and druggist, New Shoreham. Aged 78 years.

NISBET.—On July 12, Mr. William Johnstone Nisbet, chemist and druggist, Edinburgh. Aged 70.

POWER.—On July 19, Mr. Edward Power, pharmaceutical chemist, Walton-on-Thames. Aged 54.

SMITH.—On August 23, Mr. Joseph Smith, chemist and druggist, Liverpool. Aged 61 years.

TYERS.—On August 6, at the residence of her sister, 27 New Walk, Eliza Tyers, for many years a chemist and druggist at 2 Highcross Street. Aged 71.

WALKER.—On July 14, Mr. John Walker, chemist and druggist, 168 Westgate, Bradford, Yorks. Aged 56.

Trade Notes.

MEDICINE-MEASURES graduated into teaspoonfuls and tablespoonfuls have been selling in the London streets at 1d. each.

THE "Borough" ketchup, made by Mr. Peter Tyrer, is getting a good advertisement at the Health Exhibition, where it is supplied to the tables in the School of Cookery. This ought to increase the retail demand for this brand.

ON the August Bank Holiday, says *Drinks*, Messrs. Chapman & Wells, of the Horseshoe Bottling Company, Tanner's Hill, Deptford, opened no less than 600 dozen bottles of aerated waters at the stand of Messrs. Barnett & Foster, at the International Health Exhibition.

THE HOGE'S HONEY COMPANY, which has been floated as a limited company, has removed to 12 Great Eastern Street, where the office and warehouse business is all carried on. The apiary remains at Leconfield Road, Stoke Newington. The company intends to push the sale of the Horehound Honey during the coming winter.



PARTNERSHIPS DISSOLVED.

ASLIN, POTTS & CO., Villier Street South and High Street East, Sunderland, wholesale and retail druggists. August 11. (John Aslin and Edward Potts.) Debts by Potts.

DAWSON & WILLIAMS, Jeffreys Square, City London, analytical chemists. August 11. (William E. Dawson and Herbert C. Williams.)

EDWARDS & BRADLEY, Great Dover Street, Southwark, indiarubber surgical-instrument manufacturers. August 30. (Henry John Burden Edwards and Thomas James Bradley.)

GOODALL & STEVEN, Jamaica Street, Glasgow, photographers; and Oswald Street, Glasgow, manufacturers of argentic gelatino bromide papers and opals. August 26. (Andrew Goodall and Thomas Steven.) Debts by John Wilson Bruce, accountant, 12 St. Vincent Place, Glasgow, as liquidator.

KEEL & HAWES, Walcot Parade, Bath, in the manufacture and sale of Keel's Gardeners' Friend and Blight Destroyer. August 14. (William Gurney Keel and Alfred Hawes.)

KIRK, JAMES H., & CO., Miles Platting, manufacturing chemists. August 12. (James Henry Kirk and Robert Dawson.) Debts by Kirk.

PEGLER & GROVER, Surrey Cottage, Clive Road, Lower Norwood, chemists and druggists. August 31. (Arthur Pegler and Sydney Grover.)

RAMSDEN & WALKER, Quarry Road, Westgate, Cleckheaton, manufacturing chemists. May 26. (Joseph Ramsden, Armitage Walker, and Amos Walker.) Debts by Armitage Walker.

TENCH & TAYLOR & TAYLOR & CO., Little Tower Street, also Holywell Street, Strand, and Merton Terrace, Merton Road, Wandsworth, chemists and druggists; also Walbrook, chemists' transfer agents and valuers. August 27. (Richard Tench and William Henry Taylor.)

WEBSTER, JOHN, & BUCKLE, CHARLES AMBROSE, Farringdon Street, manufacturing and selling ink pellets, known as the "Electric Soluble Ink Pellets." July 31. Debts to be paid to E. C. Moore, accountant, 3 Crosby Square.

COMPANIES WOUND UP.

PATENT MEDICINES PROPRIETARY (LIMITED). August 9, by Justice Pearson. On pet. of Joseph Murphy, wholesale stationer, 104 London Wall, trading as Saunders Brothers. Solicitor — C. S. Gover, 10 Walbrook. By order.

ZOEDRONE COMPANY (LIMITED). Claims by September 13, to liquidator—Francis Moreton, 64 Elm Park Road, Chelsea. Hearing October 27, at 12 at V.C. Bacon's Chambers, Royal Courts of Justice, Strand. By order.

ADJUDICATIONS.

IVES, BENJAMIN, Henry Street, Alverthorpe Road, Wakefield, soap and grease manufacturer and manufacturing chemist. September 1. Court—Wakefield.

TUSTIN, CAROLINE, spinster, 55 Margaret Street, Cavendish Square, perfumer, trading as Smith & Nephew. August 7. High Court of Justice.

WALKER, ALFRED, 29 Church Street, Macclesfield, chemist and druggist. August 21. Trustee—The Official Receiver. Court—Macclesfield.

RECEIVING ORDER.

PARSONS, FREDERICK, 33 Gallowtree Gate, Leicester, chemist and druggist and shipper. August 21. Examination October 3, at 10. Court—Leicester.

FRANK'S OINTMENT FOR SUNBURN AND FRECKLES.—

(*Mustard Ointment.*)

Flour of mustard, finest	..	..	..	..	3 oz.
Lemon-juice	..	..	..	..	q.s.
Oil of sweet almonds	..	..	..	..	½ fl. oz.

Mix the mustard-flour with sufficient lemon-juice to form a stiff paste, add the oil of sweet almonds, and mix well.

—Druggists' Circular.

A GOOD VERMIFUGE FOR CHILDREN.—Dr. A. S. Sweet, of Southold, Long Island, recommends the following:

Santonin	..	..	..	..	..	16 grains
Fl. ext. pink root	..	..	..	..	..	160 drops
Simple syrup, enough to make	..	..	..	..	..	2 fl. oz.

Mix. Dose, a teaspoonful night and morning.

—Druggists' Circular.



The following list has been compiled expressly for THE CHEMIST AND DRUGGIST by G. F. Redfern, Patent Agent, 4 South Street, Finsbury, London, and at Paris and Brussels.]

Applications for Letters Patent :-

Aerated-water Pumps.—11,152.—August 11, 1884.—F. Foster, of Halliford Street, London. Improvements in the construction of aerated-water pumps.

Ammonia.—11,711.—August 27, 1884.—A. Feldmann, of High Holborn, London. Improvements in the process of manufacturing ammonia.

Anhydrous Sulphuric Acid.—10,860.—August 1, 1884.—H. E. Newton.—A communication from A. Nohel and G. Fehrenbach, of Paris. Improvements in the manufacture of anhydrous sulphuric acid.

Attaching Stoppers to Bottles, &c..—11,631.—August 26, 1884.—C. E. Gibson and G. Hood, of Birmingham. Improvements in means for attaching stoppers to bottles or jars.

Bicarbonate of Soda.—11,775.—August 29, 1884.—H. Gaskell, of Lincoln's Inn Fields, London. Improvements in the purification of bicarbonate of soda, and apparatus therefor.

Bottle-opener, &c..—10,874.—August 2, 1884.—M. Perkins, of Birmingham. An improved combined aerated-water bottle-opener and corkscrew.

Bottle-opener.—10,875.—August 2, 1884.—F. L. Fear and P. Wilson, of Birmingham. Improvements in door-springs.

Bottles.—11,611.—August 25, 1884.—J. R. Sharpe, of South Street, Finsbury, London. Improvements in bottles to contain aerated liquids.

Bottles.—11,642.—August 26, 1884.—H. Codd, of Southampton Buildings, London. For improvements in the manufacture of bottles, and in tool to be employed in forming the same.

Bottles.—11,756.—August 29, 1884.—J. Armstrong, of Clapham, London. For improvements in the manufacture of bottles and other vessels for the purpose of holding and preserving liquids, semi-liquids, and other moist materials.

Bleaching.—11,333.—August 16, 1884.—G. Lunge, of Zurich, Switzerland. Improvements in the application of chloride of lime for bleaching and other purposes.

Carbonate of Soda.—11,008.—August 6, 1884.—F. Brown, of Southampton Buildings, London. Improvements in the manufacture of carbonate of soda.

Coppered Blue.—11,628.—August 26, 1884.—B. Hammond, of Guildford. Coppered blue for prevention of contagious and other diseases.

Cork-fastener.—10,948.—August 5, 1884.—R. Barlow, of Albion Road, Dalston, London. A cork-fastener.

Chlorine, &c..—11,035.—August 7, 1884.—E. Weldon.—A communication from A. R. Pechiney & Co., of France. Improvements in the manufacture of chlorine and hydrochloric acid.

Chlorine, &c..—11,036.—August 7, 1884.—W. Weldon.—A communication from A. R. Pechiney & Co., of France. Improvements in manufacturing chlorine from hydrochloric acid.

Distilling Urine.—11,449.—August 19, 1884.—W. R. Lake.—A communication from C. Brison, of Mâcon. An improved method of and apparatus for distilling urine and other substances containing nitrogen.

Explosive Compound.—10,986.—August 6, 1884.—T. Wilkins.—A communication from T. Petry and O. Fallenstein, both of Dürren, Germany. An improved explosive compound.

Extracting Benzole.—11,202.—August 12, 1884.—J. Coates, of Cannon Street, London. An improved process and apparatus for extracting benzole from the gases evolved in sealed or closed coke-ovens.

Extracting Oleaginous Matters.—11,104.—August 9, 1884.—L. Steinmüller and C. Steinmüller, both of London. Improvements in the means of and apparatus for extracting oleaginous matters from bones and other greasy substances.

Extracting Oleaginous Matters.—11,109.—August 9, 1884.—W. Büttner, of London. Improvements in apparatus for extracting fat, grease, or oil from bones, wool, or other greasy substances.

Extracting Oil from Seeds.—11,403.—August 18, 1884.—H. H. Lake.—A communication from G. G. B. Casero, St. Etienne. An improved process for the extraction of oil and the production of meal from flax and other seeds.

Filters.—11,144.—August 11, 1884.—G. Haycraft, of Lyme Regis, Dorsetshire. Improvements in filters.

Filters.—11,567.—August 16, 1884.—A. Angell and W. B. G. Bennett, of London. Improvements in filters.

- Filter, &c.**—10,973.—August 6, 1884.—J. Carter, of Beaufort Street, Chelsea, London. Improvements in filtering and purifying water, sewage, and other liquids; separating the liquids from the solids, correcting fetor, and mode of treating or preparing the solids for manure, and other methods of purifying adulterated rivers.
- Filters.**—11,390.—August 18, 1884.—G. Cheavin, of London. Improvements in filters.
- Filters.**—11,478.—August 20, 1884.—D. Nicoll, of London. Improvements in apparatus for filtering and purifying water.
- Filters.**—11,558.—August 22, 1884.—E. M. Knight, of Everton, Liverpool. Improvements in appliances for filtering water.
- Filters.**—11,726.—August 23, 1884.—J. P. Jackson, of Liverpool. Improvements in apparatus for filtering water and other liquids.
- Flavouring Aerated Waters.**—11,492.—August 21, 1884.—T. Kerfoot, of London. Improvements in, and materials for, flavouring aerated waters.
- Galvanic Belts.**—11,737.—August 28, 1884.—H. J. Haddan.—A communication from W. Donnerstag, of Stettin. Improvements in galvanic chains or belts for curative purposes.
- Inhalation of Steam, &c.**—11,825.—September 1, 1884.—F. D. Delf, of Westgate, Dewsbury. The inhalation of steam and medicated vapours.
- Inhalation-apparatus.**—11,833.—September 1, 1884.—R. Garbett, of Birmingham. A new or improved inhalation-apparatus.
- Non-intoxicating Beer.**—11,297.—August 15, 1884.—T. Etty, of Liverpool. Improvements in non-intoxicating beer and in the process of manufacturing the same.
- Making Fresh Water from Salt Water.**—11,461.—August 20, 1884.—A. Chapman, of Fleet Street, London. An apparatus for making fresh water from salt water.
- Non-alcoholic Beverages.**—11,489.—August 21, 1884.—T. Hogben, of Fairholme Road, Manor Park, Stoke Newington, London. The manufacture, preservation, and distribution of non-alcoholic beverages.
- Oil-vessels.**—11,084.—August 9, 1884.—T. Gates, of Birmingham. Improvements in flexible bags, sacks, or bottles for containing oil and other liquids for various purposes.
- Obtaining Coal Products.**—10,900.—August 2, 1884.—J. G. Willans, of Priory Road, West Hampstead, London. Improvements in obtaining condensable products from coal.
- Potash-salts.**—11,007.—August 6, 1884.—F. Brown, of Southampton Buildings, London. Improvements in the manufacture of potash salts.
- Phosphates.**—11,337.—August 16, 1884.—M. Cahen, of Liverpool. A new process of producing economically concentrated assimilable phosphates for manure and soluble phosphates for the preparation of phosphoric acid and phosphorus.
- Phosphates.**—11,805.—August 30, 1884.—P. M. Justice.—A communication from S. G. Thomas, of Paris. Improvements in the manufacture of phosphates.
- Plasters.**—11,312.—August 15, 1884.—F. Peyton, of Burgess Hill, West Hampstead, London. Improvements in preparing medicinal and other compounds for use as plasters.
- Producing Glucose, &c.**—11,407.—August 18, 1884.—H. H. Lake.—A communication from A. F. Le Myé and W. De Peyster, of Paris. Improvements relating to apparatus for treating lignaceous substances for the production of glucose and alcohol.
- Paint.**—11,660.—August 26, 1884.—H. H. Lake.—A communication from L. Brown, of the United States. Improvements in and relating to the coating or covering of wood or other surfaces, and paint or composition therefor.
- Purifying Alcohol.**—10,870.—August 1, 1884.—C. D. Abel.—A communication from I. A. F. Bang and M. C. A. Ruffin, of Paris. Process and apparatus for purification of alcohol.
- Scouring Compound.**—11,548.—August 22, 1884.—W. D. Curzon and G. Jones, both of Lincoln's Inn Fields, London. A new or improved manufacture of a compound suitable for scouring and other purposes.
- Solidifying Urine.**—11,840.—September 1, 1884.—W. W. Daw, of Chadwell Heath, Essex. Solidifying urine.
- Stopping-bottles.**—10,837.—August 1, 1884.—S. Pritchard and H. Brookes, of Birmingham. A simple wood and India-rubber cork to screw perfectly air-tight, inside and out of any description of bottles.
- Stopping-bottles.**—11,088.—August 9, 1884.—S. Davey, of Birmingham. An improved bottle-stopper.
- Stopping Bottles.**—11,318.—August 15, 1884.—M. Emanuel, of Queen Street, Cheapside, London. Improvements in stoppers for bottles.
- Stopping Bottles.**—11,450.—August 20, 1884.—H. Arch and C. Wozencroft, both of Leeds. Stopping bottles containing effervescing liquids.
- Stopping Bottles.**—11,488.—August 21, 1884.—M. Macleod, of Manchester. A self-locking stopper for bottles, jars; also a valve for the introduction of gases, &c., through the said arm.
- Stopping Bottles.**—11,597.—August 25, 1884.—R. Bateman, of Birmingham. An improved stopper for bottles and jars.
- Stopping Bottles.**—11,626.—August 26, 1884.—H. Finch, of Oldham. Improvements in stopping bottles.
- Stopping Bottles.**—11,647.—August 26, 1884.—T. P. Pashby, of Quality Court, Chancery Lane, London. Improvements in the mode of stopping bottles.
- Stopping Bottles.**—11,715.—August 27, 1884.—H. W. Caton and A. R. Stocker, of Southampton Buildings, London. Improvements in the manufacture of screwed-stoppers for bottles and other like-receptacles, and in the apparatus to be employed therein.
- Stopping Bottles.**—11,243.—August 13, 1884.—G. V. De Luca, of Southampton Buildings, London. Improvements in caps or stoppers for closing bottles and other vessels.
- Sulphuric Acid.**—10,871.—August 1, 1884.—C. D. Abel. A communication from La Société Anonyme des Produits Chimiques de la Manufacture De Javal, of Paris. An improved method and apparatus for recovering the nitrous products in the manufacture of sulphuric acid.
- Soap.**—11,305.—August 15.—S. N. Dimbleday, of Paradise Street, Lambeth, London. Improvements in the manufacture of soap and saponaceous compounds.
- Substitute for Fuller's Earth.**—11,547.—August 22, 1884.—W. D. Curzon and G. Jones, both of Lincoln's Inn Fields, London. A substitute for fuller's earth.
- Sulphide of Sodium, &c.**—11,161.—August 12, 1884.—T. Macfarlane, of Lincoln's Inn Fields, London. Improvements in the manufacture of sulphide of sodium and sulphide of zinc.
- Syringes.**—11,377.—August 18, 1884.—J. Pumphrey, of Birmingham. Improvements in the construction of syringes.
- Tannic Extracts.**—11,586.—August 23, 1884.—W. A. Barlow.—A communication from La Société Civile d'Etudes sur les Procédés Nouveaux de Fabrication Perfectionnée d'Extraits Tannique, of Paris. New or improved process for the manufacture of extracts of tanuui and apparatus therefor.
- Treating Ammonium Chloride.**—11,222.—August 13, 1884.—W. P. Cochrane, of Redcar, Yorkshire, and W. Bramley, of Middleborough-on-Tees, Yorkshire. An improved method of treating ammonium chloride.
- Unstopping Bottles.**—11,309.—August 15, 1884.—H. Hopkins, of Birmingham. Unstopping bottles, &c., of aerated fluids and preventing any waste or loss of liquids.
- Utilisation of Vat-waste.**—11,373.—August 18, 1884.—D. B. Hewitt, of St. Ann's Square, Manchester. Improvements in the treatment of the refuse substance known as vat-waste for the utilisation of the sulphur and lime contained therein.
- Utilisation of Vat-waste.**—11,374.—August 18, 1884.—D. B. Hewitt, of Manchester. Improvements in the construction of apparatus to be employed in the treatment of the refuse substance known as vat-waste.

Specifications published during the month :—

Postage 1d. each extra.

1883.

5867. H. Brunner. Baskets, skeleton-barrels, or crates, for carrying acid carboys, &c. 6d.
5873. N. McF. Henderson. Obtaining oil and gas from minerals, &c. 6d.
5877. S. Clarke. Night-lights. 6d.
5893. J. Imray. Apparatus for evaporating, distilling, or concentrating liquids. 4d.
5903. J. McCulloch and H. Macvicar. Obtaining oil, &c., from minerals, &c. 6d.

1884.

93. S. C. Dean. Purifying sewage, &c. 6d.
879. E. Loeflund. Preserving milk or cream. 2d.
1024. E. Edwards. Explosive material. 4d.
1617. H. J. Allison. Wiring the corks in bottles. 8d.
2269. O. Hoffman. Colouring matters. 4d.
3392. T. Carlile and J. Park. Manufacture of bichromate of soda. 8d.
4137. W. Wigfield. Mould candles. 4d.
5218. H. H. Lake. Dental plates. 6d.
5339. A. M. Clark. Filter. 6d.
7912. L. A. Groth. Syphon. 4d.
8015. L. A. Groth. Safe-buruing petroleum. 2d.
8149. A. J. Boul. Bottle-washers. 6d.
8783. T. Terrell. Manufacture of oxide of iron for pigments. 2d.
8830. A. McDougall. Preservation of food. 2d.
8989. C. Groom. Apparatus for fumigating, disinfecting, &c. 4d.
9228. F. C. Bliss. Filters. 6d.
9350. H. J. Haddan. Bottle-packing. 4d.
9557. N. M. Henderson. Cooling oil, &c. 6d.
9629. O. Imray. Respirators. 6d.
9873. W. P. Thompson. Faucets. 6d.

Trade Report.

THE Board of Trade returns for August are certainly not satisfactory. They compare with a month with one more working day than in last August, which is equal to about 3 per cent., but they give evidence of a dull, dragging trade in all departments. Fortunately, in consequence of the abundant harvest just experienced, the country can afford better than usually to submit to a contraction of business. Imports amounted to 29,610,739*l.*, against 36,224,986*l.*. The decrease is particularly noticeable in articles of food and drink, but a shrinking in raw materials generally indicates dulness of manufactures. The exports for the month were valued at 19,802,057*l.*, against 21,384,962*l.* in August, 1883, a decrease in the volume of trade being noticeable nearly all round. The following tables refer to drugs and chemicals:—

Imports.

		1882	1883	1884
Quicksilver ..	.. lbs. value £	88,350	39,624	96,256
Alkali ..	.. cwt. value £	7,011	2,710	6,915
Cochineal ..	.. cwt. value £	8,215	6,975	6,331
Dyes (coal-tar)—				
Aniline ..	.. "	11,287	9,688	7,219
Alizarine ..	.. "	1,703	1,915	583
Other coal-tar dyes ..	.. cwt. value £	17,040	13,396	3,306
Bark, Peruvian ..	.. cwt. value £	10,835	10,793	14,772
Gum arabic ..	.. cwt. value £	131,275	133,584	122,308
Drugs, unenumerated ..	.. " value £	7,184	2,795	5,326
		14,675	7,572	15,749
		74,598	91,931	78,818

Exports.

		1882	1883	1884
Chemicals and chemical and medicinal preparations, unenumerated ..	value £	159,215	181,423	140,657
Bleaching materials or preparations ..	"	30,160	40,210	57,544
Other chemicals ..	"	182,232	161,755	185,056
Bark, Peruvian ..	.. cwt. value £	15,682	4,843	7,767
" .. "	value £	185,699	44,004	46,631

MINGING LANE, September 13.

WE regret to be unable to report any improvement in trade, although satisfaction is perhaps to be derived from the fact that there are many reasons to account for the present dulness, and also grounds for hoping that so soon as the existing hindrances are removed we may see a revival of prosperous times.

A serious check to trade must be expected so long as the Franco-Chinese difficulties are allowed to go on to the detriment of our Eastern commerce, and another great impediment in the way of business is to be found in the generally extreme and sometimes unnecessary quarantine regulations now ruling in consequence of the cholera in Southern Europe.

The Board of Trade returns for August show a sad deficit in our exports, but against this we believe that an immense amount of money, which in the ordinary course of events would have been taken out of this country and spent abroad, is now through the cholera being dispensed at our own seaside towns, and, moreover, many wealthy foreigners have also taken refuge on our shores during the reign of terror in other countries. These facts, in conjunction with the better harvest prospects, can hardly fail to show beneficial results later on.

It is gratifying to have to state that no further complications have arisen resulting from the failures announced by us last month, and we also hear that the Fabbrica Lombarda is to be restarted, but upon an entirely different basis to the late one.

Another big quinine sale took place upon August 28, particulars of which will be found elsewhere; beyond that nothing unusual has happened during the month, which has been a remarkably uneventful one.

The last drug sales, held the 4th inst., showed great lifelessness, and the lots which passed the hammer were only a small proportion of those offered, and in several instances entire parcels were bought in.

Suggested, no doubt, by the interesting display of dyes now being held at the Health Exhibition, several letters upon the subject of aniline colours have recently appeared in the *Times*, implying that their use is detrimental to health, so that the old-fashioned natural dyes, such as cochineal, madder, indigo, saffron, &c., may be on the eve of recovering a very large proportion of the trade of which, no doubt, they have of late years been deprived by the introduction of aniline.

ACIDS.—Citric has declined, and it is said to have changed hands in several instances lately at 1*s.* 4*d.* per lb. for quantities. There is hardly any demand at the moment, however, even at present low figures. Tartaric has not varied from 1*s.* 6*d.* per lb. foreign, 1*s.* 7*d.* per lb. English make. Oxalic 6*d.* per lb., but very slow of sale.

ALUM is slightly lower, and as a result home trade orders are more numerous. Loose lump, 5*l.* 17*s.* 6*d.*; ground in bags, 6*l.* 5*s.* per ton.

AMMONIA.—Sulphate is very firm at 15*l.* 17*s.* 6*d.* per ton for grey 24 per cent., only moderate quantities obtainable, but carbonate remains slow of sale at 5*d.* to 5*1*/*2**d.* per lb.

ANILINE DYES.—Referring to previous remarks upon this subject, it is our intention from time to time to report upon the consumption of aniline dyes, and to give any other particulars which may come to our knowledge or be of general interest.

ANTIMONY, being very freely offered, is lower in price at 21*l.* 10*s.* to 22*l.* per ton, but notwithstanding the low figures demand continues very restricted. *Regulus*, 41*l.* to 43*l.* per ton, with a poor market.

ARSENIC continues steady at 12*s.* 9*d.* per cwt. powdered.

BALSAMS.—*Tolu* has met with more trade of late at 1*s.* 9*d.* per lb., but *Capivi* remains very dull at 1*s.* 9*d.* to 1*s.* 10*d.* per lb. *Peru* is quoted 8*s.* to 8*s.* 3*d.* per lb., although business has recently been done at less.

BARK.—The public sales have passed off very quietly, both upon August 26th and the 9th inst., without any material change in values. In the last sales the quantity of South American bark offered was only 760 packages, of which 33 packages were sold without reserve, the rest being bought in. Of Ceylon bark 1,797 packages were offered, of which nearly 1,600 sold. The quantity of South American bark lately received has been considerably less than usual, and the shippers relied upon better prices as the result, but unfortunately for them the deficit has been more than compensated for by the increase of Ceylon shipments, of which the growth is certainly surprising; thus, up to date this season Ceylon shipments to all parts amount to over 9*1*/*2* million lbs., against less than 6 million lbs. during same period of previous season, and as a sequel we may mention that the sales on August 26 comprised the largest quantity of Ceylon bark yet offered at one time in London, being no less than 2,500 bales, weighing nearly 700,000 lbs.! Certainly quinine makers will not have to stop work through lack of raw material just yet.

BLEACHING POWDER.—The demand having slackened, price has gone back to 9*l.* to 9*l.* 5*s.* per ton, and at these reduced figures there is only a limited inquiry.

BORAX.—No variation in prices of 40*s.* to 42*s.* per cwt.; demand moderate.

CALUMBA ROOT remains almost unsaleable, but for good quality as much as 35*s.* per cwt. is now asked.

CAMOMILES.—Through the plentiful crop in Belgium this season, good white flowers are again lower, at 39*s.* per cwt., with, however, only a fair average consumptive trade.

CAMPHOR.—The position of raw qualities is strengthened by the warfare now going on in the East, although no decided advance in prices has taken place. Refined qualities are unchanged; English bells firm at 11*1*/*2**d.* per lb.

CANTHARIDES.—There is a strong demand for Russian flies of good quality.

CARBOLIC ACID has receded from the high rates to which speculation had driven it, and 97 per cent. acid is now being offered at 2s. per gallon.

CARDAMOMS are a trifle easier in price, with an average demand. In the last drug sales, out of 85 packages various sorts offered, 41 sold at from 3s. 11d. to 5s. 9d. per lb., according to quality.

CASSIA LIGNEA continues depressed at unchanged rates of 27s. to 27s. 6d. per cwt.

CASTOR OIL.—At slightly lower prices a fair business has recently been done, and in last drug sales 100 cases Calcutta "firsts" sold without reserve at 3½d., and 50 cases Coconada "seconds" sold at 3½d. per lb.

CLOVES have continued quiet, prices further declining for Zanzibar quality to 5½d. to 5¾d. per lb.

CHIRETTA.—Forty bales again appeared in last sales, and were again bought in at 4½d. per lb.

COCHINEAL has met with a very marked improvement during the last few days, with sales of 200 to 300 bags Teneriffe at full rates.

COD-LIVER OIL continues very depressed, and in last sales all offered, i.e., 16 casks Norwegian, bought in, yellow to pale, at 3s. 9d. to 6s. 6d. per gallon.

CREAM OF TARTAR is in more demand, at 126s. to 126s. 6d. per cwt. for "firsts."

CUBEBS.—One hundred and forty-six bags were advertised in last sales, and all bought in at 10s. per cwt. Since then, however, a very fair quantity of good medium berries have been sold at that figure, and for finer descriptions more money is asked. The stock now in London is estimated at about 500 bags.

ERGOT OF RYE.—Low Russian sorts are being offered at about 7d. per lb., but good Spanish ergot is worth fully 10d. per lb.

ESSENCE OF LEMON, like all other products of lemon, would undoubtedly be dearer through the difficulties placed in the way of shipping by the quarantine regulations now in force at Italian ports, were it not for the large available stocks already here.

GALLS.—China have met with moderate business of late at 50s. per cwt.

GENTIAN ROOT is now in plentiful supply at about 25s. per cwt.; 45 bales were offered in last public sales, but failed to find any buyers.

GUM ARABIC has a downward tendency, although, with a little concession on the part of holders, buyers are to be found. Of 129 bales Turkey sorts offered in last sales, 17 bales changed hands at 85s. to 87s. per cwt., the rest being bought in at 90s.

GLYCERINE.—A reduction in price to 50s. to 55s. per cwt. for 1,260 chemically pure has provoked considerable trade of late; rates for other qualities are in proportion.

HONEY is being offered less plentifully, but prices for both Jamaica and Chilean remain very low, the former description selling in last sales at 27s. to 30s. per cwt.

IODINE.—Although some very vague rumours of another projected combination of makers have recently been mooted, prices are unchanged, at 4d. per oz. for dry, 6d. per oz. re-sublimed.

IPECACUANHA.—In last public sales, of 64 serons offered 39 sold at unchanged prices of 2s. 3d. to 3s. 4d. per lb., according to quality.

ISINGLASS.—The monthly sales were held on August 26. With a dull market the competition was restricted. The total quantity of East Indian offered amounted to 530 packages, comprising 273 Penang, 148 Bombay, and 109 Saigon, of which about 280 packages in all found buyers. Penang.—152 packages sold: Leaf, good to fine, 3s. 11d. to 4s. 2d.; middling, 3s. 2d. to 3s. 7d.; low to middling, 1s. 6d. to 2s. 4d. per lb.; purse, fair to good, 1s. 4d. to 1s. 6d.; ordinary, 11d. to 1s. 2d. per lb.; tongue, good pale, 3s. 5d.;

middling, 3s.; ordinary to middling, 2s. to 2s. 11d. per lb. Bombay.—95 packages sold: Purse, fine pale, 1s. 7d. to 1s. 8d.; middling to good, 1s. 3d. to 1s. 6d.; low to ordinary, 6d. to 1s. 2d. per lb.; pipe, middling to bright reddish, 2s. 4d. to 2s. 10d.; low to good ordinary, 1s. 11d. to 2s. 3d. per lb.; old tongue, good, 2s. 10d. to 3s.; ordinary to good, 2s. 2d. to 2s. 3d.; inferior, 1s. 10d. to 2s. per lb. Saigon.—35 packages sold: Leaf, 2s. to 3s. 2d.; tongue, 1s. 1d. to 1s. 6d.; tails, 10d. to 1s. 1d. per lb. Next sales, September 23.

JALAP, at lower rates, met with more demand in last sales, when of 77 packages offered 27 bales sold at 5½d. to 6¾d. per lb. according to quality.

LEMON JUICE.—The position remains the same as last month, 19t. 10s. being the nominal value per pipe, f.o.b. Messina, for prompt shipment, although prompt shipment is next to an impossibility at present from Sicilian ports, owing to the great restrictions caused by the quarantine-regulations. What few contracts are passing are made with that understanding.

MENTHOL CRYSTALS continue in fair demand.

MORPHIA SALTS are not so much inquired for; prices unchanged, at 6s. to 6s. 3d. per oz.

OPIUM has become very flat again, with hardly any trade-doing; prices have, accordingly, given way, and now range from 12s. 6d. to 17s. 6d. per lb.

OILS.—Aniseed has improved in price, but is now quiet, at 6s. 10d. to 7s. per lb. Cassia quiet, at 3s. 9d. per lb. Peppermint.—It is reported that, although the growing plants at one time looked most promising, the crop of English oil is likely to prove a short one, by reason of the great heat having parched the plants and reduced the quantity of essential oil in the same. H. G. Hotchkiss' American oil meets with a fair consumptive demand at 15s. 6d. per lb.

OTTO OF ROSES.—The new crop prices were made known at the end of last month, and range from 5 to 10 per cent. lower than those of last year. Messrs. Ihmsen & Co., as usual, head the list with their extra-fine virgin quality, at 31s. 9d. per Turkish oz., f.o.b. Constantinople, whilst other brands range a little lower. At the same time it is asserted that the total yield of oil this year is actually less than that of last season.

PETROLEUM OIL has gone back in value, and notwithstanding that present stock is only about half what it was this time last year, the market is very dull, at for spot, 6½d. to 6¾d.; forward to December, 6½d. per gallon.

PETROLEUM SPIRIT is also lower, at common, 7d. to 7½d.; refined, 7¼d. to 8d. per gallon.

POTASH.—Chlorate has continued to improve, and is now firm at 5½d. to 5¾d. per lb. Bichromate steady, at 3½d. per lb., only limited quantities offering. Prussiate remains dull, at 9¾d. to 10½d. per lb.

POTASSIUM.—Iodide is only in moderate demand; English, 5s. 4d. to 5s. 6d. per lb. Bromide steady, at 1s. 4d. per lb.

QUASSIA WOOD has further considerably declined; and in last public sales out of 17 tons offered 7 tons were sold without reserve at 2l. 12s. per ton.

QUICKSILVER has been raised gradually to 5l. 11s. per bottle, but business is only of a most moderate character, with an utter absence of speculation.

QUININE is without demand at prices only slightly different to those of last month. Howard's, 4s. 9d. in 1 oz. vials, and German, in tins, 3s. 9d. to 4s. per oz. Pelletier's has, however, shown signs of weakness during the last few days, and price has given way to 4s. 3d. for 1-oz. bottles. On August 28 a large sale, as already mentioned, took place. In this instance the make was that of the Fabrik Chemischer Produkte, C. Zimmer, of Frankfurt, and the auctioneers Messrs. Anderson, Fairley & Gray. The quantity of 47,000 oz. was put up in nineteen unusually-large lots of 2,000 and 3,000 oz. each, notwithstanding which buyers were found without difficulty for the whole quantity offered at prices ranging from 3s. 6d. to 3s. 8d. per oz. As in the previous large sale, the bulk was bought for America. A small sale by Messrs. Lewis & Peat of 2,800 oz. Pelletier's French make, also in

tins, followed, all being sold at 3s. 10d. per oz. No other sale is yet advertised, although we think it probable that the auctioneer's hammer will be required to settle values of a few similar lots before manufacturers again control the market. A strange feature in the sale of the 47,000 oz. of Zimmer's quinine is that the identical parcel is reported to have been formerly held on the American market, but, being found unsaleable there, it was shipped to London.

RHUBARB has met with more demand lately, and in last sales, out of 117 cases offered, 75 sold: Shensi at 2s. 7d. to 3s. 6d. per lb. for fair to good qualities, and Canton 1s. 6d. to 1s. 9d. per lb.

SAFFRON.—Prices unchanged, although the outbreak of cholera in Spain has somewhat strengthened the position, as shipment direct of finest qualities is becoming difficult, and stocks here are small.

SAL-AMMONIAC remains in steady demand at 40s. to 42s. per cwt.

SALT-PETRE has gone very dull, although prices are unchanged, i.e., barrels, 22s. 3d.; kegs, 23s. 3d. per cwt.

SARSAPARILLA.—Less offering; prices for Honduras slightly dearer at 1s. 9d. to 1s. 11d. per lb.

SODA.—Crystals have continued to decline in value, and are now offered at 3s. 4s. per ton ex ship *London*. Bicarbonate has also a lower tendency, and with difficulty finds buyers at 7s. 15s. to 8s. per ton.

SOY.—Spot price remains unaltered, 1s. 6d. per gallon, and a large quantity of about 150 casks is reported sold for arrival at 1s. 4½d. per gallon, London terms.

SULPHATE OF COPPER continues in steady demand at unchanged price of 23s. per ton.

TURPENTINE has declined in value, and present prices are:—Spot, 23s. to 23s. 3d.; September to December, 23s. 6d.; January to April, 24s. 6d. to 24s. 9d. per cwt.

VANILLOES maintain values well, and in last sales, out of 31 tins offered, 15 sold at prices ranging from 12s. to 23s. per lb., according to length.

(FROM OUR AMERICAN CORRESPONDENT.)

NEW YORK, September 1.

In our home drug market there seems to be a general waiting for something to reanimate and revive the movements of those who distribute most directly to consumers, but this can hardly be experienced until the shrinkage of values has ceased to be as conspicuous an element of the condition of trade as it has been of the past year or more. Prices have not yet touched the lowest point, as buyers discover whenever they come into the market to replenish their supplies, and it is this fact that makes them purchase with such caution. For export the demand has greatly improved over previous months, the low rates prevailing having induced buyers to forward orders freely, some, however, at limit so much below ruling prices that they had to be declined.

The prices quoted in parentheses on sterling are the London equivalents of the rates here, all market deductions, discounts, &c., being taken into account.

BALSAMS.—*Copaiba* continues to arrive freely and prices are easier; Para, thin, in barrels, 42c. (1s. 10½d.); Maranham, bright thick, in barrels, 43c. (1s. 11½d.); Maracaibo, cloudy, in tins, 38c. (1s. 8½d.). *Canada* has experienced no demand and is unchanged. *Peru* in fair supply is quoted \$1.80 (8s.). *Tolu* is selling very largely at the low price of 38c. (1s. 8½d.).

CASCARA SAGRADA BARK.—A demand for this bark, which is most extensively used here, has of late set in from England. The thin bark is to be preferred; genuine is quoted 21c. (11½d.). The inferior, or thick, bark can be bought at 15c. (8d.).

BEESWAX.—This year's make is now coming forward; prime yellow is quoted 30c. (7s. 10s.), with darker grades proportionately cheaper.

CAMPHOR.—Refined still rules very low here, in quantity 17c. (9d.) would buy. Blocks are quoted 18c. (10d.). This market did not respond to the advance in Europe, owing to excessive stocks of crude on hand.

CUBEBS continue to decline, and no business results; some direct shipments have arrived.

GUARANA.—The parcels expected during the month have not arrived, and high prices are asked for the very small stock left.

COD-LIVER OIL.—There is no business to report; prime is still quoted \$1.25 (6s.).

OIL OF SASSAFRAS.—The demand continues light, but stocks being limited, and few, if any, of the distillers working as yet, the price has gone up to 52c. in export packages (2s. 3d.).

OIL OF SPEARMINT is very scarce and dear, \$4.50 (19s. 6d.) being quoted for prime.

OIL OF WINTERGREEN is in large supply and cheaper; strictly prime can now be bought for \$1.85 in tins (8s. 2d.), or \$1.95 in glass (8s. 8d.). It is said to discolour in tins. The price appears very low.

ROOTS.—The new *Mandrake* is offering at from 5c. to 6c., according to quality; 30s. to 36s. re-baling for export would be extra. *Golden Seal* is meeting with fair demand at 24c. (1s. 1½d.). *Pink Root*, with tops, 24c. (1s. 2d.). *Jalap* is in large supply, and has been shipped to London in quantity; 14c. (7½d.) would buy very fine dry roots in sound condition. *Mexican Sarsaparilla* is still scarce; one holder controls it, and asks 12c. (6d.). *Senega*.—The new crop arrives slowly, and meets with good demand; the quality appears to be better than last year; several parcels of bright and clean Western were shipped at 48c. (2s. 2d.), and sellers do not seem disposed to accept lower figures at present. *Serpentaria* at first came forward freely, and was sold down to 25c. (1s. 1½d.), but when dealers in Texas found out the brisk competition that existed, they began to hold back supplies, and 30c. (1s. 4½d.) is now asked for any that is here.

SPERMACETI has advanced to 22c. (1s.), with indications of higher rates.

OIL OF PEPPERMINT.—The crop is now rapidly approaching maturity, and, as might be expected, conflicting rumours are afloat respecting its prospects. In the *New York Herald* of August 22 it was reported that hundreds of acres of the herb had been irreparably injured by the frost—a most unusual visitant at such a period of the year. Private reports, however, confirm the truth as to the frost, and say, besides, that, although the season has not been very favourable, still the herb looks well and strong, and with a few weeks of hot suns a good yield may be expected. Some farmers, in their anxiety to test the yield, have already cut and distilled some of the old plantings, and are said to be greatly disappointed at the result; it is still, however, too soon to arrive at anything like a conclusion how matters will come out. The market here has been dull and without buyers in quantity, so that dealers who wish to depress the market in order to buy later to advantage in the producing districts have been quoting fearlessly very low figures indeed, say, about \$2.80 to \$2.90, or 11s. 6d. to 12s. f.o.b. here. Inferior oil from Ohio is also quoted as low as \$2.70, or 11s. 1d. f.o.b., but no sales have been made. H. G. Hotchkiss oil is quoted at \$3.30 (15s. 2d.).

THE LANGUAGE OF THE FUTURE.—There are many English-speaking students of medicine in Vienna, mostly Americans, and the fact that certain of the "Privat-Docents" are giving their courses in the English language may, perhaps, be taken as a forecast of what will be the language of the future. It appears, also, that Vienna has no intention of resigning her position as the Continental centre of medical teaching.—*Phila. Med. and Surg. Rec.*

ENAMEL FOR WOODEN VESSELS.—One kilo. shellac, 125 g. of Venetian turpentine, and 125 g. of colophony are melted together, and when cool 6 litres of alcohol added. The wooden vessels must be perfectly dry when painted with the enamel. From two to three paintings suffice to completely fill up all pores and to render the surface smooth and lustrous. The enamel is odourless, and the vessels so treated admit of being readily cleansed, and they can stand a temperature of 60° C. to 70° C.—*Mittheilungen über Landwirtschaft, Pharm. Zeitschrift f. Russland.*

Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mincing Lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.

		Last Month	This Month
		s. d.	s. d.
ACIDS—			
Acetic	per lb.	0 2½ to 0 0	0 2½ to 0 0
pure	"	0 5 .. 0 9	0 5 .. 0 9
glacial	"	0 6 .. 1 0	0 6 .. 1 0
Benzoin Sublimate	"	0 0 .. 3 6	0 0 .. 3 6
Ex Gum	per oz.	0 6½ .. 0 0	0 6½ .. 0 0
Citric	"	1 5½ .. 0 0	1 4½ .. 1 5
Gallic	"	3 2 .. 3 6	3 2 .. 3 6
Hydrochloric	per cwt.	4 6 .. 7 6	4 6 .. 7 6
Nitric	per lb.	0 3 .. 0 3½	0 3 .. 0 3½
Oxalic	"	0 6 .. 0 0	0 6 .. 0 0
Sulphuric	"	0 0 3 .. 0 1	0 0 3 .. 0 1
Salicylic	"	6 9 .. 9 6	6 9 .. 9 6
Tannic	"	1 2 .. 2 9	1 4 .. 2 9
Tartaric, English	"	1 7½ .. 1 7½	1 7½ .. 1 7½
foreign	"	1 6½ .. 0 0	1 6½ .. 0 0
ANTIMONY, crude	per cwt.	22 6 .. 0 0	22 0 .. 0 0
star	"	42 0 .. 44 0	41 0 .. 43 0
ARSENIC, lump	"	22 0 .. 24 0	22 0 .. 24 0
powder	"	12 6 .. 12 9	12 6 .. 12 9
BRIMSTONE, rough	"	8 0 .. 8 6	8 0 .. 8 6
roll	"	8 9 .. 10 0	8 9 .. 10 0
flour	"	10 0 .. 12 6	10 0 .. 12 6
GLYCERINE, German			
refined	"	57 6 .. 62 6	50 0 .. 55 0
crude brown	"	37 6 .. 42 6	37 6 .. 42 6
IODOFORM	per lb.	8 0 .. 8 2	8 0 .. 8 2
IODINE, dry	per oz.	0 4 .. 0 0	0 4 .. 0 0
resublimed	"	0 6 .. 0 0	0 6 .. 0 0
MAGNESIA, calcined	per lb.	0 10 .. 1 4	0 10 .. 1 4
Hwds.	"	5 0 .. 0 0	5 0 .. 0 0
MERCURY	per bot.	106 3 .. 0 0	111 0 .. 0 0
PRECIPITATE, red	per lb.	3 0 .. 0 0	3 0 .. 0 0
white	"	2 11 .. 0 0	2 11 .. 0 0
PRUSSIAN BLUE	"	1 8 .. 2 0	1 8 .. 2 0
SANTONINE	"	11 6 .. 0 0	11 6 .. 0 0
SALCINE	"	10 0 .. 0 0	10 0 .. 0 0
THYMOLE	"	21 6 .. 0 0	21 6 .. 0 0
SALTS—			
Alum	per ton	117 6 .. 0 0	117 6 .. 0 0
powder	"	127 6 .. 0 0	125 0 .. 0 0
Ammonia:			
Carbonate	per lb.	0 5 .. 0 5½	0 5 .. 0 5½
Hydrochlorate,			
crude, white	per ton	600 0 .. 760 0	600 0 .. 760 0
Sulphate	"	307 6 .. 0 0	307 6 .. 0 0
Argol, Cape	per cwt.	83 0 .. 96 0	83 0 .. 96 0
Red	"	70 0 .. 90 0	70 0 .. 90 0
Oporto, red	"	38 0 .. 42 0	38 0 .. 42 0
Bleaching powder	"	9 6 .. 0 0	9 0 .. 9 3
Borax, British refined	"	40 0 .. 42 0	40 0 .. 42 0
Calomel	per lb.	2 6 .. 0 0	2 6 .. 0 0
Chloral hydrate	"	4 5 .. 4 7	4 5 .. 4 7
Liebreich's	"	5 6 .. 6 0	5 6 .. 6 0
Copper:			
Sulphate	per cwt.	23 0 .. 0 0	23 0 .. 0 0
Coppers, green	per ton	55 0 .. 0 0	55 0 .. 0 0
Corrosive Sublimate	per lb.	1 11 .. 0 0	1 11 .. 0 0
Cream Tartar, French	per cwt.	126 0 .. 0 0	126 0 .. 126 6
brown	"	112 0 .. 0 0	112 0 .. 0 0
Epsom Salts	"	4 0 .. 6 0	4 0 .. 6 0
Glauber Salts	"	4 0 .. 5 0	4 0 .. 5 0
Magnesia: Carbonate	"	40 0 .. 0 0	40 0 .. 0 0
Pond, Hwds.	"	72 0 .. 0 0	72 0 .. 0 0
Morphite Murias	"	6 0 .. 6 3	6 0 .. 6 3
Phosphorus	per lb.	2 3 .. 2 4	2 3 .. 2 4
Potash:			
Bichromate	"	0 3½ .. 0 0	0 3½ .. 0 0
Carbonate:			
Potashes, Canada,			
1st sort	per cwt.	29 0 .. 0 0	29 0 .. 0 0
Pearlashes, Canada,			
1st sort	"	46 0 .. 46 6	46 0 .. 46 6
Chlorate	per lb.	0 5½ .. 0 5½	0 5½ .. 0 5½
Prussiate	"	0 10 .. 0 10½	0 10 .. 0 10½
red	"	1 11 .. 2 0	1 11 .. 2 0
Sulphate	per cwt.	10 6 .. 11 6	10 6 .. 11 6
Potassium:			
Bromide	per lb.	1 4 .. 0 0	1 4 .. 0 0
Chloride	per cwt.	9 0 .. 0 0	9 0 .. 0 0
Iodide	per lb.	5 4 .. 5 6	5 4 .. 5 6
Quinine:			
Sulphate, British, in bottles	per oz.	4 10 .. 0 0	4 9 .. 0 0
Sulphate, French	"	4 6 .. 0 0	4 3 .. 0 0
Sulphate, German	"	3 9 .. 0 0	3 9 .. 4 0
Sal Acetos	per lb.	0 8½ .. 0 0	0 8½ .. 0 0
Sal Ammoniac, British	per cwt.	40 0 .. 42 0	40 0 .. 42 0
Saltpetre:			
Bengal, 6 per cent. or under	"	16 3 .. 16 6	16 3 .. 16 6

	Saltpetre:—(cont.)	Last Month	This Month
	Bengal, over 6 per cent.....	s. d.	s. d.
Soda: Bicarbonate	per cwt.	16 0 to 0 0	16 0 to 0 0
Hwds.	"	22 3 .. 23 3	22 3 .. 23 3
Carbone:	"	8 0 .. 0 0	7 9 .. 8 0
Soda Ash	per deg.	0 1½ .. 0 1½	0 1½ .. 0 1½
Soda Crystals	per cwt.	3 4½ .. 0 0	3 3 .. 0 0
Caustic	"	9 3 .. 9 6	9 3 .. 9 6
Hyposulphite	"	7 9 .. 8 0	7 9 .. 8 0
Nitrate	"	11 3 .. 0 0	11 3 .. 0 0
Zinc Sulphate	"	12 0 .. 14 0	12 0 .. 14 0
SUGAR OF LEAD, White Brown	"	30 0 .. 34 0	30 0 .. 34 0
VERDIGRIS	per lb.	26 6 .. 0 0	26 6 .. 0 0
VERMILLION, English China	"	0 9½ .. 1 0	0 9½ .. 1 0
DRUGS.		2 2 3 .. 2 4	2 2 4 .. 0 0
ALOES, Hepatic	per cwt.	75 0 .. 90 0	75 0 .. 90 0
Socotrine	"	90 0 .. 140 0	90 0 .. 140 0
Cape, good	"	40 0 .. 45 0	40 0 .. 45 0
Inferior	"	25 0 .. 40 0	25 0 .. 40 0
Barbados	"	50 0 .. 130 0	50 0 .. 130 0
Curaçoa	"	40 0 .. 75 0	40 0 .. 75 0
AMBERGRIS, grey	per oz.	60 0 .. 80 0	60 0 .. 80 0
BALSAM—			
Canada	per lb.	1 10 .. 2 0	1 10 .. 2 0
Capivi	"	1 10 .. 2 0	1 10 .. 2 0
Peru	"	8 0 .. 8 3	7 6 .. 8 0
Tolu	"	1 9 .. 0 0	1 9 .. 0 0
BARKS—			
Canella alba	per cwt.	25 0 .. 27 6	25 0 .. 27 6
Cascarilla	"	40 0 .. 45 0	40 0 .. 45 0
CINCHONA—			
Pern, grey	per lb.	0 9 .. 1 8	0 9 .. 1 8
Calisaya, flat quill	"	0 6 .. 2 0	0 6 .. 2 0
Carthagenia	"	0 4 .. 1 0	0 4 .. 1 0
Columbian	"	0 6 .. 1 9	0 6 .. 1 9
Cuprea	"	0 3 .. 1 4	0 3 .. 1 4
New Granada	"	0 7 .. 2 0	0 7 .. 2 0
Pitayo & Maracaibo	"	0 4 .. 1 5	0 4 .. 1 5
Red	"	2 0 .. 9 0	2 0 .. 9 0
East India, crown red	"	0 6 .. 2 0	0 6 .. 2 0
BUCHU LEAVES	"	0 4 .. 2 3	0 4 .. 2 3
CAMPHOR, China	per cwt.	55 0 .. 57 6	55 0 .. 57 6
Japan	"	57 6 .. 60 0	57 6 .. 60 0
Refn, Eng.	per lb.	0 11 .. 0 0	0 11 .. 0 0
CANTHARIDES, China	"	1 04 .. 0 0	1 04 .. 0 0
Russian	"	2 6 .. 3 0	2 6 .. 3 0
CAMOMILE FLOWERS	per cwt.	46 0 .. 48 0	38 0 .. 40 0
CASTOREUM	per lb.	26 0 .. 38 0	26 0 .. 38 0
CHIRETTA'S BLOOD, Jp.	"	0 34 .. 0 41	0 34 .. 0 41
DRAGON'S BLOOD, Jp.	per cwt.	70 0 .. 240 0	70 0 .. 240 0
ERGOT of RYE	per lb.	0 9 .. 0 10	0 7 .. 1 0
FRUITS & SEEDS (see also Seeds and Spices)			
Anise, China Star	per cwt.	95 0 .. 100 0	95 0 .. 100 0
Russian	"	20 0 .. 30 0	20 0 .. 30 0
Beans, Tonquin	per lb.	3 0 .. 5 0	3 0 .. 5 0
Cardamoms, Malabar, good	"	6 0 .. 8 0	6 0 .. 8 0
inferior	"	3 0 .. 4 0	3 0 .. 4 0
Aleppy	"	3 0 .. 4 6	3 0 .. 4 6
Madras	"	1 6 .. 3 6	1 6 .. 3 6
Ceylon	"	2 0 .. 2 10	2 0 .. 2 10
Malabar sorts	"	4 0 .. 7 0	4 0 .. 7 0
Cocculus Indicus	per cwt.	11 0 .. 13 0	11 0 .. 13 0
Coloceynth, apple	per lb.	0 10 .. 1 3	0 10 .. 1 3
Cubebas	per cwt.	195 0 .. 250 0	200 0 .. 280 0
Cummin	"	30 0 .. 34 0	30 0 .. 34 0
Fenugreek	"	10 0 .. 12 0	10 0 .. 12 0
Juniper Berries	"	8 6 .. 11 0	8 6 .. 11 0
Nux Vomica	"	7 6 .. 10 0	7 6 .. 10 0
Tamarinds, E. India	"	8 0 .. 12 0	8 0 .. 12 0
W. India	"	18 0 .. 20 0	18 0 .. 20 0
Vanilla, large inferior	per lb.	20 0 .. 25 0	20 0 .. 25 0
FLOWERS—Dalmatian Caucasian	"	60 0 .. 90 0	60 0 .. 90 0
HONEY, Chili	per cwt.	95 0 .. 0 0	95 0 .. 0 0
Jamaica	per cwt.	25 0 .. 50 0	25 0 .. 50 0
IPECACUANHA	per lb.	29 0 .. 44 0	29 0 .. 44 0
ISINGLASS, Brazil	"	2 6 .. 3 6	2 6 .. 3 6
Tongue sort	"	1 6 .. 4 10	1 6 .. 4 10
East India	"	1 0 .. 3 11	1 0 .. 3 11
West India	"	2 9 .. 3 13	2 9 .. 3 13
Russ. leaf	"	7 0 .. 10 0	7 0 .. 10 0
Smovia	"	2 2 .. 2 4	2 2 .. 2 4
JALAP, good	"	0 8 .. 0 10	0 7 .. 0 9
infer. and stems	"	0 7 .. 0 8	0 6 .. 0 7
LEMON JUICE	per deg.	0 0 .. 0 0	0 0 .. 0 0
LIME JUICE	per gall.	1 6 .. 0 0	1 6 .. 0 0
LIQUORICE, Spanish	per cwt.	55 0 .. 100 0	55 0 .. 100 0
Liquorice Root	"	12 0 .. 20 0	12 0 .. 20 0
MANNA, flesky	per lb.	4 6 .. 5 0	4 6 .. 5 0
MUSK, Tonquin pod.	per oz.	66 0 .. 73 0	66 0 .. 73 0
Grain	"	45 0 .. 80 0	45 0 .. 80 0
Ynnan pod.	"	29 0 .. 35 0	29 0 .. 35 0
OILS (see also separate list)			
Almond, expressed	per lb.	1 3 .. 1 5	1 3 .. 1 5
Castor, 1st pale	"	0 34 .. 0 34	0 34 .. 0 34
second	"	0 34 .. 0 34	0 34 .. 0 34
Cod-liver	per gall.	5 9 .. 7 0	5 9 .. 7 0

Essential Oils:		Last Month		This Month		Oils:—(cont.)	per tun	Last Month		This Month	
		s. d.	s. d.	s. d.	s. d.			£ s.	£ s.	£ s.	£ s.
Almond	per lb.	30	0	0	30	0 to 0	27	0	28	0	27
Anise-seed, star..	"	6	6	6	9	6	6	0	26	0	24
" German, &c. ..	"	8	0	13	0	8	0	0	0	0	53
Bergamot	"	5	6	6	0	5	6	0	0	0	35
Cajeput	per bot.	3	3	0	0	3	3	0	0	0	28
Caraway	per lb.	5	6	0	0	5	6	0	0	0	28
Cassia	"	3	8	0	0	3	8	0	0	0	26
Cinnamon	per oz.	1	9	2	6	1	9	2	6	0	24
Cinnamon-leaf	"	0	23	0	0	0	23	0	0	0	25
Citronelle	"	0	1	0	0	0	1	0	0	0	27
Clove	per lb.	3	6	4	0	3	3	3	6	0	39
Juniper	"	1	6	2	0	1	6	2	0	0	41
Lavender, Exotic	"	6	9	8	6	6	9	8	6	0	35
" Mitcham	"	130	0	0	0	130	0	0	0	0	39
Lemon	"	4	6	6	0	4	6	6	0	0	31
Lemongrass	per oz.	0	1	5	0	0	1	5	0	0	30
Neroli	"	7	0	0	0	7	0	0	0	0	34
Nutmeg	"	0	9	0	11	0	9	0	11	0	19
Orange	per lb.	12	0	0	0	12	0	0	0	0	19
Otto of Roses	per oz.	18	0	38	0	17	0	35	0	0	29
Patchouli	"	1	4	2	0	1	4	2	0	0	27
Peppermint :											
American	per lb.	12	0	0	0	12	0	0	0	0	27
(H. G. Hotchkiss)	"	15	6	16	0	15	6	0	0	0	41
English	"	25	0	28	0	25	0	28	0	0	43
German	"	8	0	14	0	8	0	14	0	0	45
Japan	"	7	0	9	0	7	0	9	0	0	38
Menthoul crystals	"	45	0	0	0	45	0	0	0	0	38
Rosemary	"	2	6	3	9	2	6	3	9	0	38
Sassafras	"	2	6	0	0	2	6	0	0	0	38
Spearmint	"	12	0	14	0	12	0	14	0	0	38
Thyme	"	2	6	0	0	2	6	0	0	0	38
Mace, expressed	per oz.	0	2	0	0	0	2	0	0	0	38
Opium, Turkey	per lb.	16	0	18	6	15	6	17	6	0	38
" inferior	"	13	6	15	0	12	0	14	0	0	38
Quassia (bitter wood)	per ton	90	0	95	0	50	0	60	0	0	38
Rhubarb, China, good and fine	per lb.	2	0	0	3	6	2	0	3	6	0
Middling to fair	"	1	6	0	2	0	1	6	2	0	0
ROOTS—Calumba	per cwt.	20	0	25	0	20	0	25	0	0	38
China	"	20	0	0	0	20	0	0	0	0	38
Cus-Cus	"	30	0	21	0	30	0	21	0	0	38
Galangal	"	21	6	0	0	21	6	0	0	0	38
Gentian	"	25	0	27	6	25	0	27	6	0	38
Orris	"	23	0	50	0	23	0	50	0	0	38
Pellitory	"	68	0	80	0	68	0	80	0	0	38
Pink	per lb.	1	6	0	0	1	6	0	0	0	38
Rhatany	"	0	5	0	6	0	5	0	6	0	38
Seneka	"	2	4	0	2	6	2	4	0	0	38
Snake	"	1	6	0	0	1	6	0	0	0	38
SAFFRON, Valencia	"	36	0	42	6	36	0	42	6	0	38
Alicante	"	25	0	30	0	25	0	30	0	0	38
SASSAPARILLA, Lima	"	0	6	1	0	0	6	1	0	0	38
Guayaquil	"	1	2	1	5	1	2	1	5	0	38
Honduras	"	1	6	0	1	3	1	6	0	0	38
Jamaica	"	1	6	0	1	10	1	6	0	0	38
SASSAFRAS	per cwt.	0	0	0	0	0	0	0	0	0	38
SCAMMONY, Virgin	per lb.	32	0	35	0	32	0	35	0	0	38
second and ordinary	"	15	0	28	0	15	0	28	0	0	38
SENNNA, Bombay	"	0	2	4	0	0	2	4	0	0	38
Tinmively	"	0	3	0	1	2	0	3	0	0	38
Alexandria	"	0	9	0	1	6	0	9	0	0	38
SPERMACETI, refined	"	1	3	0	0	1	3	0	0	0	38
American	"	0	10	0	0	0	10	0	0	0	38
SIQUILS	"	0	1	0	2	3	0	1	0	0	38
GUMS.											
AMMONIACI, drop	per cwt.	2	10	0	3	6	2	10	0	3	6
ANIML, fine washed	"	18	0	20	0	18	0	20	0	0	38
sorts	"	13	0	17	10	13	0	17	10	0	38
ARABIC, pale picked	"	2	15	0	3	10	2	15	0	3	10
sorts, mid. to fine	"	1	10	0	2	6	1	10	0	2	6
TURKEY, pick. grd. to fin.	"	9	0	9	10	9	0	9	10	0	38
second & inferior	"	6	10	0	8	10	6	10	0	8	10
sorts	"	4	10	0	4	15	4	5	4	10	0
ASAFTIDA, cm. to fin.	"	3	0	0	3	15	3	0	0	3	15
BENJAMIN, Siam, 1st & 2nd	"	17	0	35	0	17	0	35	0	0	38
Sumatra	"	5	0	11	0	5	0	11	0	0	38
COPAL, Manila	"	15	0	67	0	15	0	67	0	0	38
Angola, rcd.	"	145	0	152	6	145	0	152	6	0	38
DAMAR, pale	"	77	6	90	0	77	6	90	0	0	38
EUPHORBIUM	"	12	6	20	0	12	6	20	0	0	38
GALBANUM	per lb.	0	3	0	10	0	3	0	10	0	38
GAMBoge, picked pipe	per cwt.	230	0	300	0	230	0	300	0	0	38
GUALACUM	per lb.	0	9	0	2	5	0	9	0	0	38
KINO	per cwt.	45	0	0	0	45	0	0	0	0	38
KOWRIE, sorts selected	"	45	0	60	0	45	0	60	0	0	38
"	"	115	0	260	0	115	0	260	0	0	38
MASTIC, picked	per lb.	1	6	0	3	3	1	6	0	3	3
MYRRH, good and fine, ordinary to fair	per cwt.	100	0	150	0	100	0	150	0	0	38
OLIBANUM, p. drop	"	34	0	39	0	34	0	39	0	0	38
amber and yellow	"	36	0	0	0	36	0	0	0	0	38
SENEGAL	"	40	0	45	0	40	0	45	0	0	38
SANDARAC	"	90	0	110	0	90	0	110	0	0	38
SHELLAC, Orange	"	65	0	94	0	65	0	94	0	0	38
Liver	"	64	0	67	0	64	0	67	0	0	38
THUS	"	25	0	0	0	25	0	0	0	0	38
TRAGACANTH, leaf in sorts	"	140	0	200	0	140	0	200	0	0	38
OILS.											
SEAL pale	per tun	30	0	0	0	30	0	0	0	0	38



Camphor Pilules.—Messrs. C. H. Coles & Co., Reading, referring to a note in our last number, give the subjoined process for making them:—Take 1 lb. of unmedicated pilules; shake up with $\frac{1}{2}$ fl. oz. diluted spirit of wine (S.V.R. 4 parts, aquæ 1 part) till absorbed; then shake with $\frac{1}{2}$ fl. oz. of saturated spirit of camphor (Rubini's).

The Use of the Words "Patent" and Registered."

To the Chemist and Druggist—

SIR,—Perhaps you may consider the following information of sufficient interest to the trade to place it before your readers:—

I am continually receiving from members of the Association labels containing the word "patent," for information as to their liability to medicine-stamp duty—"Patent Neuralgic Pills," "Patent Diarrhoea Mixture," and so forth. Quite apart from the question of stamp duty on preparations covered by such labels, it should be generally known that by the provisions of the 105th section of the Patents, Designs, and Trademarks Act, 1883, any person selling an article bearing the word "patent," for which no letters patent under the seal of the Patent Office have been granted, renders himself liable for each offence to a penalty not exceeding £1. The same section prohibits, under a similar penalty, the use of the word "registered" in conjunction with any trade-mark or design, unless the said mark or design has been duly registered under the Act.

I am, sir, yours faithfully,

W. F. HAYDON.

(Secretary to the Chemists and Druggists' Trade Association of Great Britain.)

Offices of the Association,
23 Burlington Chambers, New Street, Birmingham.

August 21.

The Amenities of Pharmacy.

The following anonymous letter was lately received per post by a pharmacist on the south-east coast. The only explanation which he can frame is that a few days before he had declined to explain why 8d. had been charged—it was alleged—at Ramsgate and Margate for a 6-oz. mixture, tablespoonful dose.

The prescription began with tinct. nucis vom., 3j., &c. The pharmacist quoted, unsuccessfully, 1s. 6d. for dispensing it, and went the length of saying that it was not his business to explain why chemists elsewhere charged ridiculous prices; abstaining, however, from using any language offensive or improper in the slightest degree. The anonymous letter ran thus:—

"I called at your shop on Monday and was received in the most brutal manner by you because I objected to be robbed to the tune of more than 150 per cent. over the value of the drugs; and I wish to record my opinion that you are about one of the most impudent blackguards I have met, although many of you low-class shopmen are beginning to assume that sort of tone towards the gentlemen class, a proceeding which, *in the end*, will work its own cure. I repeat, therefore, that you are an insolent hound, and not worth this notice, but it may serve to you as a lesson for the future to treat your superiors with proper respect."

198,54. H. B. asks for formulae for glycerine and cucumber, foot-rot mixture, and dilute nitrate of mercury ointment that will keep well without changing colour.

Foot-rot Mixture.—Finlay Dunn says the liquor hydrargyri nitratis acidus, with 12 or 15 parts of water and a little nitric acid, forms a good remedy for foot-rot in sheep. It is applied with a feather.

Glycerine and Cucumber.—We once tried to make some spirit of cucumber by distilling sliced cucumber with fine spirit. The result, as may be imagined, was not satisfactory. We should be inclined to digest peeled sliced cucumber with good glycerine, and fancy the product would be more profitable than our essence.

Diluted Nitrate of Mercury Ointment.—Probably the man does not exist who has made this article to keep its colour permanently.

"Composition Essence."

To the Chemist and Druggist—

SIR,—I wish, through the medium of your paper, to call the attention of the trade to the fact that Mr. White, medical botanist, of Leeds, is endeavouring to secure the sole right to the use of the words, "Composition Essence." In the *Trade Marks Journal*, July 23 last, that title is placed amongst the list of trade-marks for the sole benefit of Mr. White, and if this is not successfully opposed before the 23rd of the present month, a very serious injury and injustice will be done to a large number of both wholesale and retail chemists.

I have used the words for at least twenty years, and the sale of a preparation with that title is a source of income to me; and I believe there is not a single chemist in Yorkshire and Lancashire but will have the same experience. It is a trade term as common in these counties as castor oil or spirits of nitre.

Many, like myself, have spent money in advertising, to create a demand for our special make, and Mr. White is now trying to take the benefit.

Some years ago Mr. White registered as a trade-mark his composition essence label, and, presuming on this, he issued threatening letters from his solicitor to a number of users of the title "Composition Essence," some of whom, out of sheer dread of the law, ceased to use the title. I received one of his threats, but replied I was prepared to meet him in a court of law. I knew he had neither moral nor legal right to the title; but, if he succeeds in this application, he will have a legal right, and, judging from the past, he will use his power to the utmost.

Knowing this, I have taken steps to stop him. I filled up and sent in the forms for that purpose, and I have received a notice from the Trademarks Office that they are duly received.

I am opposing Mr. White on the ground that the words "Composition Essence" is a trade term that has been in general use for a number of years.

Now I write to you, sir, feeling sure that every sensible chemist in the kingdom takes and reads your paper, and that it will enable me to ask my fellow-chemists to assist me in this business. I want, by their assistance, to substantiate the grounds of my opposition. I want my brethren to send me one or two of their labels, also hand-bills of those who advertise it, and at the same time to state how long they have used the words "Composition Essence," and I ask them to send as speedily as possible.

Should any chemist wish to add his opposition as I am doing, the forms may be purchased for 20s. at the Post Office, and any respectable solicitor will fill them up.

As this is a matter of special urgency and importance, I shall be glad if you will draw the attention of your readers to it.

Yours truly,

Winding Road, Halifax.

W. C. HERDEN.

To the Chemist and Druggist—

SIR,—I think the attention of the trade should be directed to the action of Mr. White, of Vicar Lane, Leeds, who is seeking to obtain registration of, and by that means secure the exclusive right to use, the words "Composition Essence."

I have heard of several who have been threatened by him with legal proceedings, and who have given up the use of the words rather than resist a legal action and risk a verdict. In my opinion, neither Mr. White nor any one else has exclusive right to these words, as they have been in common use by the trade so long that, if ever a right did exist, it has been condoned by lapse of time. I have used these words on labels upwards of twenty years, and probably many of my fellow-tradesmen will also have used them for a greater or lesser period. It would be well if some way could be devised to hinder this encroachment without throwing the onus on any single person.

Yours faithfully,

14 Blagdon Street, Blyth, September 5.

J. HINTON KENDALL.

Ergotin and Ergotine.

To the Chemist and Druggist—

SIR,—Will you allow me to draw attention to an error which appeared on page 147 of your March number.

Martindale's formula for hypodermic injection of ergotin is there given, but instead of ergotin, as published by him in his Extra-Pharmacopœia, it is printed as ergotine.

Ergotine is the crystallised alkaloid prepared from ergot, and has been used hypodermically in doses of 1-10th grain (see "Recent Materia Medica," lately issued by Messrs. Evans, Lescher & Webb), whereas the hypodermic dose of ergotin, the aqueous extractive, given by the same authority, is similar to that of Mr. Martindale's.

Would it not be well to note the error, as the difference in the doses is great?

I am, sir, yours truly,

187 High Street, Exeter, August 26.

P. F. ROWSELL.

[The correction is important, and we are obliged to Mr. Rowsell for directing attention to the error.—ED. C. & D.]

197/22. *An Apprentice* says he is surprised to find how many articles used in pharmacy possess names derived from the animal kingdom, and, among other names which would occur to anyone, such as dragon's blood, crow fig, snake root, and the like, adds:—

Hen-bane	Cat-aplasm	Oss-sepia
Worm-wood	R(h)at-any	Cochin-eal
Gent-ian	Cod-eia	Cat-echu
Gal-banum	Gal-angal	Ox-yamel
Cur-rie powder	R(h)am-ni	Ant-imony
Ass-aefetida	Coc(k)-culus	OL. jec-ass

Evidently the parents and guardians of this promising youth have apprenticed him to the wrong profession.

57/197. *Dermatologist*.—**Hypodermic Injections**.—*Ergotine* (not ergotin; see another note in this month's Correspondence).—“The crystallised alkaloid has been used hypodermically in doses of 1 grain” (*Lescher's Recent Materia Medica*). *Pilocarpine*.—“Hypodermically inject 15 to 30 minims of a 2-per-cent. solution, or 1-20th of a grain, three times a day” (*Idem*). *Picrotoxin*.—“For hypodermic injection a simple aqueous solution of 1 in 240 is best used, but it is difficult to dissolve, and apt to crystallise out” (*Martindale's Extra-Pharmacopoeia*). The 1-25th of a grain seems to have been used as a dose. The last-named authority gives as the formula for a hypodermic injection of *atropine*, “sulphate of atropine, 4 grains to 1 oz. of distilled water; dose, 1 to 4 minims, or more.” The most important condition to ensure reliable preparations is that the water employed should be doubly distilled, and that the solution should be absolutely free from atmospheric contamination. Sores resulting from hypodermic injections are believed to have been occasioned by germs in the solutions.

196/40. **Employers and Assistants**.—A correspondent, referring to our recent legal article on the relations between employers and assistants, thinks it might as well be mentioned that where an assistant is paid a salary, and “house rent free,” as for example, when the assistant is manager of a branch shop, in case of dismissal “at a moment's notice,” the occupancy of the house would terminate with the service. Our correspondent refers to a case of the kind which occurred recently, where an assistant was dismissed summarily, and thought he could stay in the house during his own pleasure; but the lawyers soon altered that idea. The assistant, as we understand, was merely living in the house which was ratably occupied by his master. The case would have been different if he had duly hired the house himself, either from his employer or from anyone else.

58/197. *Sub Umbrā Floresco*.—**Excipient for Pil. Coloc. Co.**—Use dec. aoes co. **Sugar for Medicinal Syrups**.—Duncan's is generally recommended. **Mist. Ammoniaci Cone**.—Emulsify 1 part of ammoniacum with 4 parts of water, and use 1 part of the emulsion to 7 parts of water, to form the mist. ammoniaci, B.P.

41/197. *Kintyre*.—Fellowship of the Chemical Society is obtained by election. The application of the candidate is endorsed by several fellows, and the election takes place by ballot. No particular qualification is implied by the title F.C.S. The Ph.D. degree is a German one, and involves three years' studies at a university, followed by a thesis on some original work. For the Major examination we should recommend Ganot's “Physics,” Attfield's “Chcmistry,” Bentley's “Botany,” and either of the popular manuals of *Materia Medica* (Royle's, Redwood and Bentley's, &c., but not “*Pharmacographia*,” which is a splendid supplementary work, but not suited for groundwork). Sutton's “Volumetric Analysis” is a very useful additional treatise. But these books do not exclude the necessity of practical work.

65/197. **Arsenical Fly-paper**.—*J. K.* asks:—Can non-registered persons sell them? Can registered persons sell them without complying with the Sale of Poisons Act as for the sale of arsenic? We discussed this question in an Editorial Note in March last. There had occurred a case of poisoning by arsenical fly-papers in Liverpool, and it was said that such sales were an infringement of the Arsenic Act. We showed that in that Act the word arsenic was to be taken to include arsenious acid and the arsenites, arsenic acid and the arseniates, and all other colourless preparations of arsenic. We do not think the sale of arsenical fly-papers would infringe that Act. Whether they would come under the definition of “preparations of arsenic” in the Pharmacy Act is a more difficult question. Clearly if so arsenical wall-papers are equally preparations of arsenic. The point is one on which a lay opinion can be only a guess.

The Stores and their Leavings.

To the Chemist and Druggist—

SIR.—Perhaps the enclosed advertisement may be interesting to you, in the way of showing how respectable members of the trade are insulted. Although it has nothing to do with me personally, I take the opportunity of resenting such gross impertinence on behalf of the trade, and trust the Southampton chemists will combine together to arrange terms for supplying the company's clients when they come late at night, or on Sundays. It is to be hoped that such announcements as this will lead medical men and the more thoughtful part of the public to reflect on the duties and responsibilities of chemists to supply medicines at all times, night and day, as well as on Sundays, and that they will not refuse to grant the small remuneration usually asked for such services. I have been in business twenty-six years, and never yet heard of any of those companies or stores giving information gratis, or in any way advancing pharmaceutical research, and I tell my customers that, all being well, my pharmacy will outlive the majority of these mushroom growths.

Yours truly,

STAND FAST.

The following is the advertisement referred to, cut from the *Hans' Independent*:

E A R L Y C L O S I N G .

Nearly every chemist in this town keeps his shop more or less open until about 11 P.M., whereas in other and much larger towns—in Edinburgh, for instance—two or three such shops meet the requirements of the public after eight o'clock, and all the assistants at similar establishments are released at that hour. The directors of the Southampton Drug Company (Limited) have determined to take a step in what they consider to be the right direction, by freeing their assistants entirely at 153 High Street, at 9 P.M. (except on Saturdays), and giving their neighbours the benefit of the business they have hitherto done after that time. Commencing on July 14, the shutters will be drawn, as usual, at 8 P.M., and a portion only of the staff will attend until 9 P.M.

43/134. *A. J. W.*.—**Apprenticeship**.—The bankruptcy of a master enables either party to the apprenticeship contract to give notice to the other of the cancellation of the indentures. The apprentice or articled clerk who has paid a fee can apply to the trustee, who is empowered to release pay out of the estate such proportion of the premium as may seem reasonable, or may arrange for the transfer of the indentures or articles. But the apprentice is not in the position of a preferential creditor. You, however, do not know whether your master was bankrupt or not. If he was you would appear to have neglected your opportunity, though we judge, from what you state, the chance was slender enough, as it would appear his estate showed nothing in the pound. If he has not been a bankrupt since your contract was signed you have still a claim on him. An action on a deed may be commenced more than six years after the breach of covenant in respect to which it is brought. But do not throw good money after bad unless you see a very good chance of recovering something.

39/197. *Nitratis* asks:—Is an apprentice bound to do all the bookkeeping and accounts during his apprenticeship? We should say that if a youth, apprenticed to a chemist, were kept to bookkeeping always, his contract would not be fairly carried out. But bookkeeping is a part of a chemist's business, and ought to be taught. No invariable rule can be laid down defining how much time is to be devoted to each part of the business.

13/198. *Magister* asks what steps a master should take against an apprentice who has gone off, with all his luggage, during his master's absence, having served only half his time; also, if any redress can be claimed for loss of services, &c., as it has caused both expense and inconvenience?

As you did not send a copy of the indenture, we can only suppose that it is in the usual form. If so, you have no remedy against the apprentice himself, but may bring an action for breach of covenant against the parent or guardian who covenanted for the apprentice faithfully serving his master during all the term of the apprenticeship. You should place the matter in the hands of a solicitor, and instruct him to bring an action for damages.

25/197. *W. H.*.—**Copying Graph**.—The French Ministry of Public Works has published a formula for a hectograph or gelatine pad, which is said to produce very satisfactory results. The composition consists of 100 parts of good ordinary glue, 500 parts of glycerine, 25 parts of finely powdered baric sulphate, or the same amount of kaolin, and 375 parts of water. For the copying-ink a concentrated solution of Paris violet is recommended. To remove the old copy from the pad, a little muriatic acid is added to the water, washing it gently with this liquid by means of a soft rag, afterwards using blotting-paper for removing superfluous moisture. A certain London company have claimed patent rights in these graphs, and we cannot say whether their claim is a sound one or not. So you would risk something by selling the article.

Abolition of Co-operative Stores.*To the Chemist and Druggist—*

SIR.—A letter appeared under the above heading in your last issue. Although the ideas of your correspondent are not new they are none the less important. The advice of the justly indignant "Not a Scalper" has again and again been placed before retail chemists, but has hitherto been productive of only a few cases of isolated and half-hearted action. The time is now ripe for a combined and earnest struggle.

It may seem a mere flight of fancy to state that the present system of co-operative trading is striking at the root of our Empire's wealth. But it is a grim reality. England has been termed a "nation of shopkeepers," and perhaps justly so. This "nation of shopkeepers" has placed itself in the van both in wealth and power. And when we find our leaders in thought, the

"Peers of England—pillars of the State," and even Majesty itself, applauding and advocating a system which, if carried to a full extent, would simply shut up all shops and ruin all tradesmen, it becomes a matter of vital importance as well to the political economist as to the trader concerned.

This co-operative trading has been applauded from a Royal source as productive of thrift. "Thrift!" If it is thrift for titled idleness to flinch large pensions or obtain great emoluments, which the trader has to pay, and then for these *bénéficiers* to take away from him the means of his doing so, it is a very objectionable thrift, and a very questionable virtue. In short, the system of co-operative trading is against the *leges non scriptae* of political economy and fair trading.

Let us go back to the origin of the shopkeeper, and see if his existence is a relic of barbarism or an adventitious shoot of civilisation. In the earliest ages, when land was plentiful and population extremely limited, the shopkeeper was unknown. As capitalist dealt with capitalist, sale or exchange was effected without the assistance of the "middleman." As population increased the division of labour was gradually introduced. Hitherto, all men were tillers of the ground, and their system of trading was practically on the co-operative method. But as numbers increased and the security of property became more assured, shopkeepers became a necessary institution. Labour became divided into three great groups—the tiller of the ground, the wholesale merchant, and the retail merchant. Each was a necessity of the other. Great wealth has been amassed, but the monetary princes are to be found among the first or second group rather than the third. The retail merchant has paid his share—a very large one—of his country's taxes, and has contributed equally with the others to the glory and stability of their common Empire.

But a blast blows over the scene, causing the "dry bones" of discontent to rattle with an ominous sound. The landed proprietor and the wholesale merchant commune together, and say of their friend the retailer, "That he is an exemplary citizen, we know; but that he is a useless one we are equally sure. Let us exterminate him. He may pay his taxes as long as he is able, and afterwards he may relieve the monotony of the Stygian ferryman, or find another Hippomenes to drop golden apples in his path. In him the glow of labour may be purifying fire, wherein all poison is burnt up," but we will none of him. Let us co-operate." And they have co-operated.

Well, sir, as to the remedy. Your correspondent truly pointed out last month that the principal sinners are those people who draw large amounts from our pockets in the forms of pensions or salaries.

The British nation pays annually, in the forms of "annuities, pensions, superannuations, compensations," &c., about a million and a half sterling. This, of course, does not include the very much larger amount under the head of "salaries," but in all cases the taxpayer has to pay the piper. It may seem suicidal for persons to turn and rend the hand, or rather pocket, which nourishes them. Still it is done. In the words of Cicero, "Alas for the times thus corrupted; or, rather, for mankind who thus corrupt the times!" But while we may not at present venture to control the trading co-operations of those who derive their incomes from private sources, still it is most decidedly in our power to prevent those whose salaries and pensions we pay from using our money to our ruin. How is it to be done?

The advice of "Not a Scalper" is excellent. But hitherto each has looked to his neighbour to take the initiative, and nothing has yet been done. I would suggest a combination of retail traders all over the country—not of chemists merely, but of all retail traders. A society might be formed with some such title as "The Legitimate Trading Association." Its objects would be somewhat similar to those formulated in the letter of last month. That the potentiality of the people is irresistible, that their will is supreme, are facts which are constantly being placed before the public, and yet have as little tangibility in the minds of most of them as in the days of the serf and Domesday-book. Let us solemnly recognise the fact, and as it is only necessary to combine in order to obtain our demands of simple justice, no delay ought to take place.

Perhaps, Mr. Editor, you would allow names to be enrolled at your office and when a sufficient number has been sent in, some steps could be taken to float the organisation.

Your obedient servant,

London, September.

INSTANET.

[We have more than once called attention to the National Traders'

League, an association constituted just as our correspondent would have one; but it does not seem that these fiery souls, who are so eager in defence of their views of political economy, are at all forward in subscribing 5s. The National Traders' League is not a success. It is open to all tradesmen, though grocers have been its chief support. It especially organises attacks on Civil Service trading. The office is at 27 Leadenhall Street, E.C. We gather from correspondence in the *Grocer*, however, that its supporters are quarrelling among themselves, and the League seems to be failing to pieces.—ED. C. & D.]

Dispensing Difficulty.—198/71. *W. G. M.* writes:—"Can you or any of your readers tell me why the mixture of the following ingredients deliquesces, and suggest a remedy against the same?"

	Grains					
Soda bibor.	vij.
Soda bicarb.	v.
Sodi chlorid.	vij.
Puly. sachc. alb.	xij.

M. Ft. pulv.

Owing to the large amount of water in the first two ingredients, I did not use a mortar, but mixed the powders intimately on paper by means of a spatula. The customer returned the powders next morning, saying they were useless."

The cause of the difficulty is the ten equivalents of water present in the borax. There is no water of crystallisation in the bicarbonat. The remedy is to weigh out the required quantity of borax and heat it carefully in a platinum or porcelain crucible to drive off the water of crystallisation. It would then be desirable to mix on paper as before and to send out the powder in an additional wrapper of waxed paper.

191/43. *G. L. M.* asks for the formula of Atkinson & Barker's rose nipple-liniment.

191/10. *Zenophon* would like to know the address of maker of bottles marked at the bottom with a Greek delta.

213/15. *C. B. G.*—**Syrupus Ferri Lactophosph.**—In the report of the Committee for the Revision of the United States Pharmacopœia two formulae were given. We quote the one which seems most likely to secure a stable product:—Take of—

	Parts					
Lactate of iron	1
Stronger phosphoric acid, sp. gr. 1:350	5
Syrup of lemon	1
Simple syrup	q.s.

Rub the lactate of iron with simple syrup, 16 parts, until they are thoroughly mixed, then add the phosphoric acid, and triturate until the lactate of iron is dissolved; finally, add the syrup of lemon and enough simple syrup until the whole product weighs 200 parts. (See THE CHEMIST AND DRUGGIST, January, 1882, p. 9.) The preparation was not adopted in the Pharmacopœia.

Syrupus Calcii Lactophosphat.—The following is the U.S.P. formula:—Take of—

	Parts					
Precipitated phosphate of calcium	22
Lactic acid	33
Orange-flower water	80
Sugar in coarse powder	600
Hydrochloric acid, water of ammonia, and water, each	q.s.

To the precipitated phosphate of calcium, mixed with 300 parts of cold water, add enough hydrochloric acid to dissolve it. Filter the solution, dilute it with 1,200 parts of cold water, and then add water of ammonia until it is slightly in excess. Transfer the mixture at once to a fine-webbed muslin strainer. As soon as the liquid has run off, return the magma to the vessel, mix it quickly with 1,200 parts of cold water, and again transfer it to the strainer. When it has drained, mix the magma at once with the lactic acid and stir until it is dissolved. Then add the orange-flower water and enough water to make the solution weigh about 350 parts, filter, and pass enough water through the filter to make the filtrate weigh 400 parts. Lastly, add to this the sugar, dissolve it by agitation without heat, and strain.

192/40. *J. A. H.* asks if any reader could kindly give him the composition of Boehlius' or Bochlius' metal polish. It is a pinky liquid, which deposits a sediment on standing, and is used for brass and copper; also of a bright metal paste, similar to that made by Adshead, of Belper.

41/195. *G. D.—Home Ginger Beer without Yeast.*—Loaf sugar, 5 lbs.; lemon-juice, 1 gill; honey, $\frac{1}{2}$ lb.; bruised ginger, 6 oz.; water, 5 gallons. Boil the ginger in 3 quarts of the water for half an hour; then add the sugar, the juice, and the honey with the rest of the water, and strain through a cloth. When cold add the white of an egg and 2 drachms of essence of lemon. After standing three or four days, bottle it.

195/59. *Pharmacy.*—You had better get the prospectus of the examinations from the Registrar to the Pharmaceutical Society, 17 Bloomsbury Square. If you have no local association where you can meet with those who have passed the examinations, and no chance of attending a school of pharmacy, you would, perhaps, do well to study under one of the postal systems mentioned in our Educational Information. Perhaps you can attend classes in connection with the Science and Art Department. If so, you would do well to pass the advanced stage examinations in chemistry and botany before you trouble about the pharmaceutical examinations. Your time could not be better employed. When you have got thus far, you should turn your attention to Attfield's "Chemistry," and study all the first part. Meanwhile, you should make a collection of small specimens of drugs in chip-boxes, labelled at the bottom with the name and natural order and habitat of the plant producing it, parts used, and preparation; all this information can be obtained from the Pharmacopœia. You should also familiarise yourself with the various tinctures, extracts, and other preparations, so as to be able to recognise them in unfamiliar bottles. Take your Pharmacopœia, and classify tinctures and other preparations according to mode of preparation, strength, dose, &c., so on, in order to fix all these details in the mind. You will also need to learn how to read and dispense prescriptions. Books that will be useful to you are Attfield's "Chemistry," Bentley's two "Students' Guides to Botany," Royle's "Materia Medica," Pereira's "Selecta & Prescriptis."

193/27. *Enquirer.*—Mayne's "Medical Vocabulary" may, perhaps, meet your wants, though we are not sure whether there is a recent edition.

220/2. *G. L.—Churchill's Technological Handbooks, "Bleaching, Dyeing, and Calico Printing," will probably answer your purpose.*

50/197. *Spongia.—Sponge.*—We do not know any English work on sponges. Hyatt, an American naturalist, has published a pamphlet on "Commercial and other Sponges," but we do not know the price nor the publisher; and there is a German work, by Schmidt, entitled "Spongien des Adriatischen Meeres," published at Leipscic. Spon's "Cyclopædia" contains an article giving a summary of the information in those treatises. Some original information concerning sponges was published in THE CHEMIST AND DRUGGIST, July, 1883.

19/196. *P. T. O.—Most forms for bitters contain gentian, but it is not desirable that this flavour should predominate. Following is a recipe for Angostura Bitters, which we have previously published:*

Fine Angostura bark	4 oz.
Camomile flowers	1 "
Cardamom seeds..	$\frac{1}{2}$ "
Cinnamon..	$\frac{1}{2}$ "
Orange peel	1 "
Raisins	1 lb.
Dilute alcohol	2½ gals.

Macerate for a month; press and filter.

24/197. *Nemo.—To dye black some white hairs on a black dog, first moisten the hairs with a solution of nitrate of silver (10 grains in fluid drachm), then, while damp, apply a weak solution of sulphide of ammonium.*

59/197. *Difficulty.—We have experienced no difficulty in producing a bright pepsine wine from the formula on page 130 of Diary, 1884. It is important that the pepsine should be quite free from starch. Filter through paper and purified animal charcoal.*

196/33. *Micro, Devon.—Dr. Carpenter's book on the microscope is an excellent one, published at 16s. You could probably get a copy of the last edition but one at a low rate. L. S. Beale's work on the microscope is also good. In either of these you will find full details on methods of mounting, which are so various that we cannot supply useful details in a short note like this. You will get some useful particulars from articles on the microscope which appeared in THE CHEMIST AND DRUGGIST for February and May, 1882. You will find the best advice we can offer as to books for counter-prescribing on page 367 of our July issue.*

197/1. *Alpha, Ilfracombe.—We do not know many of the books you refer to, but Quain's "Dictionary of Medicine" stands at the head of the list. Cassell's "Family Physician" is likely to be a useful book; also Dr. Warburton Begbie's "Medical Information and Advice," published by Nelson.*

197/20. *John Jones asks how carbolised blue vitriol for wheat-dressing is made. We should imagine that it would be safe to add as much common carbolic acid as powdered blue vitriol would absorb.*

Agents for Poisons.—*Subscriber (43/198) asks—Is it lawful for a chemist to appoint an agent in a neighbouring village for the sale of laudanum, &c., in pennyworths, the agent attaching the chemist's label? This is being done in "Subscriber's" district. A similar case came before the Court of Queen's Bench in November, 1881, and was reported in this Journal for December, 1881. An Oxford chemist had supplied a shopkeeper with drugs—red precipitate among other articles—and these were sold bearing the chemist's label. Before the magistrates the defendant had successfully contended that he was to be regarded as the chemist's servant but no one appeared for the defendant before the higher court. It was held that the agent must be regarded as the seller, and that therefore he had infringed the Act.*

NEW COMPANIES.

THE HARDEN STAR HAND GRENADE FIRE-EXTINGUISHER COMPANY has been formed to manufacture and sell the hand grenade fire-extinguishers recently noticed in this journal. Capital, 30,000*l.*, in 10*l.* shares.

CONDENSED PEPTONISED MILK COMPANY (LIMITED).—This company proposes to purchase from Mr. Walter Henry Thew his invention relating to improvements in the preparation of milk applicable for children's and invalids' use, for which provisional protection has been obtained. The purchase also includes the vendor's interest in an agreement of June 6, whereby Messrs. Savory & Moore are appointed agents for the sale of certain preparations to be made under the said invention. Capital, 5,000*l.*, in 10*l.* shares. The purchase-consideration is 500*l.* in cash and two-thirds of the clear annual net profits. Mr. W. H. Thew is appointed managing director at a salary of 250*l.* per annum.

BRITISH CHEMISTS AND DRUGGISTS' TRADING ASSOCIATION.—*Objects: To enable retail chemists and druggists to buy goods wholesale, and to manufacture chemicals. Capital: 100,000*l.*, in 5*l.* shares. Signatories (with one share each): E. F. Roberts, 11 Appach Road, Brixton; W. Barber, 11 Canterbury Terrace, Standard Street; J. Garrett Elliott, 66 Fore Street; T. Colls, 283 Holloway Road; J. Sawyer, 63 Alma Street, New North Road; F. Hamilton, 34 Harrowgate Road, Hackney; E. Starling, 2 Serjeants' Inn, Chancery Lane; Augustus Care Arnold, Hornton Street, Kensington. The number of directors to be not less than three nor more than twelve. First directors to be appointed by subscribers to memorandum of association. Qualification, the holding of 10 shares; remuneration to be fixed by general meeting of company. Registered by J. N. Weigal, 32 Fenchurch Street.*

We have received a copy of the prospectus of this Association, which is obviously of considerable interest to pharmacists. The objects announced are to form a co-operative association among chemists and medical men, with a view of purchasing drugs, &c., to advantage. The application of the co-operative principle to wholesale buying has a most promising appearance and we are far from saying that it is not the proper principle; but it is a fact that such schemes have not hitherto proved conspicuously successful either in this or other trades. The directors already named on the prospectus unquestionably give to this enterprise a highly respectable character, but they do not guarantee that efficient business capacity without which the undertaking could not possibly be successful. It would not be by any means impossible to obtain competent aid, but it is not easy to secure the services of good men for an enterprise the success of which is doubtful. The most likely means of establishing such a scheme would seem to us to be by purchasing a small but sound concern to start with, and developing it by the co-operative system. An advertisement, giving the names of the first directors, and other particulars will be found on page 3.

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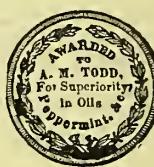
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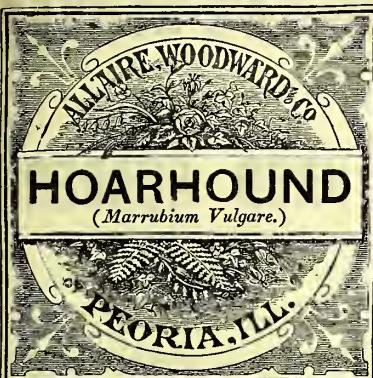
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IMPORTANT NOTICE

Very little attention is generally paid by druggists to this class of goods, so that frequently (in fact it has become the rule) pressers never or seldom put their names on the packages, and, as a result, a large proportion of these goods in the market are short weight, old or inferior stock, not true to name, or otherwise objectionable.

If you wish to avoid all these serious objections, and at the same time secure a much handsomer package, having on it all the common or vulgar names, also the German and French names, the medicinal properties, formulas for the infusion and dose of the same, and also, in the case of Poisons, the antidote, you can easily do it by specifying our brand (A. W. & Co.) when ordering of our jobber. In case inferior goods are substituted, we shall be pleased to receive your orders direct.

We believe it is only necessary to call the attention of the intelligent and thinking portion of the trade to these facts to secure a hearty support in our effort to supply superior goods at ordinary prices.

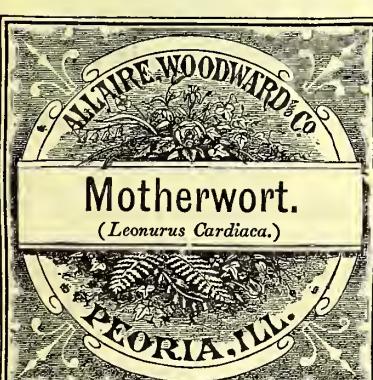
Our position as large consumers of this class of goods in the manufacture of Fluid and Solid Extracts and Sugar-coated Pills enables us to secure the best quality, gathered expressly for us, at the very lowest possible price, so that to secure better goods you do not have to pay more money, but simply exercise a little care in ordering.

Our name is on every package. Accept no other as ours.

POISONS are put up in **YELLOW PAPER**, and in this class are included all goods which, though not strictly poisons, should be dispensed with caution, such as Tansy, Savin, Pennyroyal, &c. Roots and harks coming under this class have a cautionary label of yellow paper pasted on the front end. All other ounce packages are put in fine blue paper. The adoption of these styles by us, we trust, will reduce very materially the chances for mistakes in dispensing.

CAUTION.—During the past year nearly every presser of botanic goods in this country has adopted our style of putting them up, under the supposition that it is the wrapper which sells the goods. We are convinced, however, that it is the superior quality of the goods furnished which has given us the largest trade by far now done by any one house, and we trust that buyers will not be deceived by these external imitations.

logue, nerveine, auti



— 7 —

COMMON NAME:
Motherwort, Cardiaca.
Herzaesgannkrant.
Aarinaume.

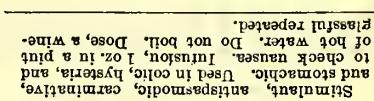
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Extracts,**
GELATINE AND SUGAR-
COATED PILLS,
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Botanic Goods,
PEORIA, ILLINOIS, U.S.A.

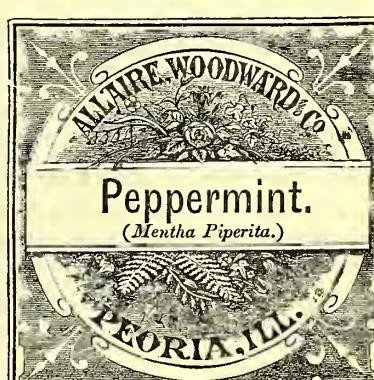
These Goods may be obtained from

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BASTIN, MCGREGOR & CO., Manchester, England.
A. J. WATT & CO., Sydney, N.S.W., Australia.
W. H. H. LANE, Melbourne, Victoria, Australia
HEMMONS, LAWS & CO., Melbourne.
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SIMS & PARKEs, Sydney, N.S.W.

四



t, antispasmodic, car-

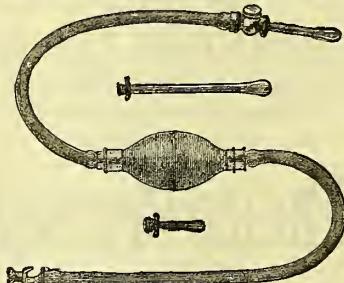


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Peppermint.
Pfefferminze.

DAVIDSON SYRINGES

Nos. 1 and 2,
**PURE BLOCK TIN
PIPES.**



No. 4,
**HARD RUBBER
PIPES.**

*UNIVERSALLY ACKNOWLEDGED TO BE THE MOST PERFECT ENEMAS MADE.
A PERFECT INSTRUMENT that can always be relied upon is the CHEAPEST.*

With the DAVIDSON Syringes, absolute perfection in the purity of stock, and skill of construction, are the objects aimed for, so that by their great durability they are much cheaper to use than any others.

WE COMPETE ON QUALITY ONLY.

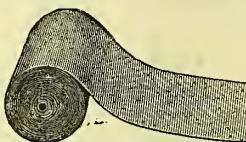
The trade never have any bad stock of DAVIDSON Syringes, which is so often the case with the cheap, worthless Syringes, such as rubber growing hard, pipes corroding, valves useless, &c., &c., and during the 25 years that we have made them, we do not recall a single complaint of their quality. The quality is specially desirable in countries where they have not the means of repairing, or where the climate effects the cheap adulterated rubber goods.

We have recently added a patent improvement to the Syringe in making the metal on the suction end of the tubing in the shape of a hook, so that the instrument can be hung up after use, and all the fluid allowed to drain out, which adds greatly to the durability of the Instrument.

These goods are exported to England, Germany, France, Holland, South America, Mexico, East Indies, &c.

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**DAVIDSON'S
60 FEET**



**BANDAGES.
LONG.**

The advantages in these Bandages will at once suggest themselves to Physicians and Druggists.

They are made **60 feet long** in four widths (1½, 2, 2½, and 3 inches), so that **any length or width desired** can be cut off, and it relieves the Druggists from the necessity of carrying in stock a line of Bandages of various lengths.

Many objections are found with Bandages that are made with tapes on the end, as the tapes, being non-elastic, bind the limb so rigidly as to stop or impede the circulation.

With Davidson Bandages these objections are entirely removed, as they are secured in place by using diaper or safety pins, so that **no part** of the limb is bound by non-elastic material.

We give the following from the celebrated London Medical Journal, "THE LANCET," of March 25, 1882.

"DAVIDSON RUBBER CO. ELASTIC BANDAGE.—The Bandage seen by us is a very good article, pure, odourless, uniform, and with excellent smoothly-cut edges. It is prepared in lengths of 60 feet, from which any length can be cut. With it are sold small 'safety' pins for fastening the last turn, as it is objected to the tape usually fastened on to Martin's Bandages that it forms an *in*-elastic constrictor of the part, and in this objection there is some force. It is probably sufficient to say that this Bandage fully maintains the high character for rubber goods already won by this firm."

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SEELEY'S HARD RUBBER TRUSSES.

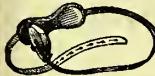


Fig. 1.

Fig. 5.

Fig. 22.

Fine Steel Springs, neatly covered with highly-polished Hard Rubber. Made in every desirable pattern; with Pads anatomically constructed. Light, cool, cleanly, durable; unequalled in quality, finish, and practical construction. Unaffected by time, use, or climate; used in bathing. Always Reliable. Prices reduced to meet the popular demands. Sold and supplied by all leading Druggists and Dealers. To avoid Spurious Imitations, see Genuine stamped (Spring and Strap), "I. B. Seeley—Warranted."

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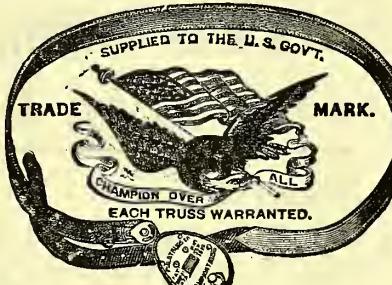
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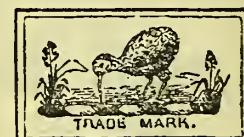
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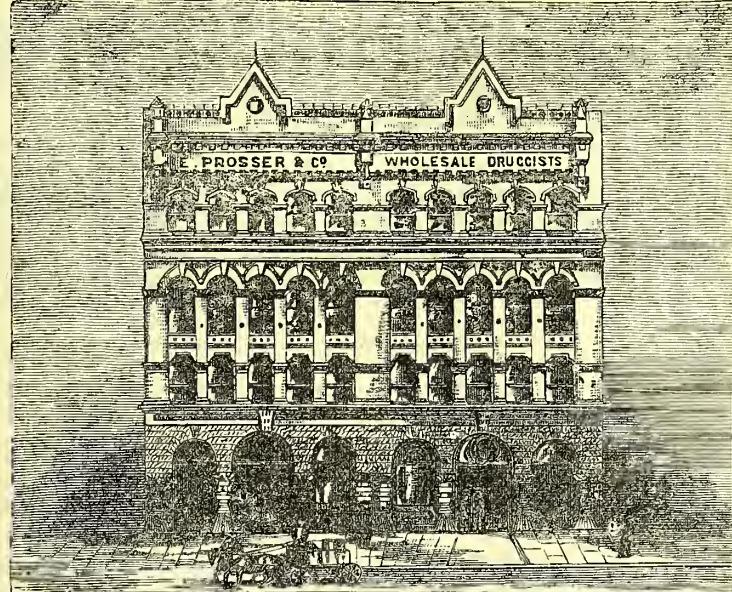
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POTASS BROMIDE ---	Fine white dry regular crystals ...	Perfectly free from iodide, and the most free from chloride.
" CAUSTIC ---	Lump and stick, white ...	Commercially pure, and pure by alcohol.
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Extractum Boldo Fluidum	per lb.	16/- 14/6,"	Extractum Hamamelis Fluidum (Witch Hazel) lb.	8/- 7/- "	
Extractum Buchu Fluidum	per lb.	7/- 6/- "	Extractum Hæmatoxylon Fluidum	per lb. 3/6 3/- "	
Extractum Calumbæ Fluidum	per lb.	3/- 2/6,"	Extractum Hydrastis Fluidum (Golden Seal) per lb.	10/- 9/- "	
Extractum Caroba Fluidum	per lb.	11/- 10/- "	Extractum Hyoscyami Fluidum	per lb. 16/- 15/- "	
Extractum Cascara Sagrada Fluidum.....	(Rhamnus Purshiana)	8/- 7/- "	Extractum Ipecacuanha Fluidum	per lb. 16/- 15/- "	
Extractum Castaneæ Fluidum ... (Chestnut)	per lb.	9/- 8/- "	Extractum Jaborandi Fluidum.....	per lb. 7/- 6/- "	
Extractum Chimaphila Fluidum (Pipsissewa)	per lb.	9/- 8/- "	Extractum Junglandis Fluidum (Butternut) per lb.	9/- 8/- "	
Extractum Cimicifugæ Fluidum (Black Cohosh) lb.		9/- 8/- "	Extractum Krameriae Fluidum.....	per lb. 7/- 6/- "	
Extractum Cinchonæ Flav. Fluidum	per lb.	10/6 9/6,"	Extractum Lappæ Fluidum	(Burdock) per lb. 4/- 3 6/-	
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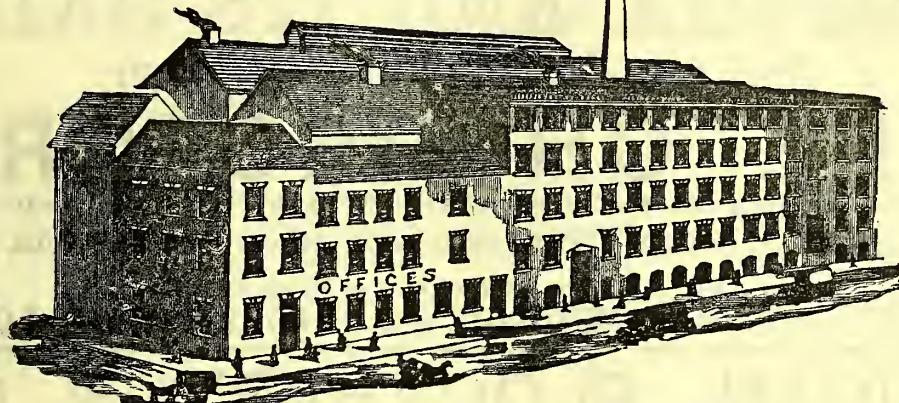
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IMPORTANT CAUTIONS

From Lord Chancellor SELBORNE, Vice-Chancellor Sir W. PAGE WOOD,
and the LORDS JUSTICES OF APPEAL.

VICE-CHANCELLOR SIR W. PAGE WOOD, by whom the suit in Chancery was first heard, stated in his judgment that 'Dr. J. Collis Browne was undoubtedly the Inventor of Chlorodyne, that the whole story of the Defendant Freeman was as deliberately untrue as the falsehood he had deposited with reference to the use of his Chlorodyne in the Hospital.'

The VICE-CHANCELLOR also stated, 'that Chlorodyne was a fanciful name, and had application been made sooner, the Court would have given Dr. Browne protection.'

LORD CHANCELLOR SELBORNE coincided with the judgment of the Vice-Chancellor upon this point, and stated 'that had application been made at a proper time and place, the Court would have found means to restrain the Defendant from misrepresenting the decision of the Vice-Chancellor.'

LORD JUSTICE JAMES, on appeal, stated in his judgment, 'that the Defendant Freeman had made a deliberate misrepresentation of the decision of Vice-Chancellor Wood.'

It was proved in Court, on affidavit by Mrs. Forbes, of Paris, that the testimonial published in the *Times*, November 14th, 1865, speaking of the great efficacy of Chlorodyne in Cholera, referred to Dr. J. Collis Browne's Chlorodyne, and that she never used any other, that she had written to the Defendant Freeman to that effect; notwithstanding which notice the Defendant publishes the said testimonial as referring to his medicine.

The Editor of the *Medical Times*, in his report on Chlorodyne, January 13th, 1866, gives information that the Chlorodyne referred to was the medicine introduced by a retired Army Medical Officer, which was Dr. J. Collis Browne; still this is published by the Defendant as testimony to his medicine.

Numerous affidavits from eminent Physicians and others were produced in Court, stating that Dr. J. Collis Browne was the inventor of Chlorodyne, and that when prescribing they mean no other.

The Defendant himself publishes that his compound is in effect and composition quite different to any other preparation; nevertheless he assumes the name, testimonials, &c., of Chlorodyne.

Technicalities in law prevent that protection which the public should justly have against such a course of conduct. It is now incumbent on all who purchase Chlorodyne to see that the name, 'Dr. J. Collis Browne's Chlorodyne,' is engraved on the Government Stamp, as it is not sold otherwise. All other compounds under the name of Chlorodyne are spurious. All attempts at analysis have failed; hence the statement that the constituents of Chlorodyne are known is a misrepresentation.



FURTHER IMPORTANT NOTICE.

The subjoined list of eminent Firms concur with Vice-Chancellor Sir W. Page Wood's statement in Court, that Dr. Collis Browne was undoubtedly the Inventor of Chlorodyne; and that when Chlorodyne, or the Original Chlorodyne, is ordered, they invariably supply Dr. J. Collis Browne's:—

Apothecaries' Hall,	London	Frazer & Green,	Glasgow	Morson, T., & Son,	London
Allen, Hanbury & Co.,	"	Gale & Co.,	London	Newbery & Sons,	London
Baiss Brothers,	"	Giles & Son,	Clifton	Oldham, G., & Co.,	Dublin
Banks & Richards,	Birmingham	Goulding, Messrs.	Cork	Parsons & Richardson,	Leicester
Barron, Harvey & Co.,	London	Gratton & Co.,	Belfast	Peake, Allen & Co.,	Dublin
Bell, John, & Co.,	"	Grimwade, Ridley,	London	Raines & Co.,	Liverpool
Bourne & Taylor,	"	Grindley & Son,	Chester	Raines & Co.,	York
Corbyn & Co.,	"	Hearon, Squire & Francis,	London	Raines, Blansbards & Co.,	Edinburgh
Cox & Gould,	"	Hodgkinson, Tonge & Stead,	"	Sang & Barker,	"
Curling & Co.,	"	Hopkins & Williams,	"	Sanger, J., & Sons,	London
Curtis & Co.,	"	Hovenden, R., & Sons,	"	Sim, James, & Co.,	Aberdeen
Davy, M'Murdo & Co.,	Belfast	Hunt & Co.,	Exeter	Smeeton, W.,	Leeds
Dobbin, W., & Co.,	Belfast	Hunt, A., & Co.,	"	Southall & Co.,	Birmingham
Drew, Barron & Co.,	London	Johnson, J. H. & S.,	Liverpool	Sutton, W., & Co.,	London
Drew, B., & Alexander,	"	Langton, W., & Co.,	London	Tomlinson, Hayward & Co.,	Lincoln
Dunn & Company,	"	Lynch & Co.,	"	Treacher, Hodgkinson & Co.,	"
Edwards, W.,	Exeter	Mander, Weaver,	Wolverhampton	Westrup, J. B.,	Kensington
Evans, Gadd & Co.,	"	Marsden & Sons,	London	Westwood & Hopkins,	Lincoln
Evans, Lescher & Evans,	London	Maw & Son,	"	Woolley, James,	Manchester
Ferris & Co.,	Bristol	Meggeson & Co.,	"	Wyleys & Brown,	Coventry
Foulger, S., & Son,	London	Mackay, John, & Co.,	Edinburgh	Yates & Co.,	London

After these public statements in a Court of Equity, and subsequent confirmation by the trade at large, no Chemist can conscientiously use or sell any other compound for Chlorodyne without committing a breach of faith, unjust to patient and physician. The value of the remedy alone creates the great demand.

Sold in Bottles—1s. 1½d., 2s. 9d., 4s. 6d., and 11s. Usual Discount to the Profession.

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Established by 90 years' experience as a safe and effective Medicine.

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TOWLE'S CHLORODYNE

The Original Preparation, as approved by the Medical Profession
on account of its known composition and uniform strength.

Retail at 13½d., 2s. 9d., 4s. 6d., and 1ls.

We beg to inform our numerous customers, and the Trade generally, that we are WITHDRAWING THE 4-OZ. AND 10-OZ. DISPENSING sizes, and, instead, are putting up AN 11s. RETAIL SIZE. The wholesale price of the 4s. 6d. and 11s. will be at the same rate per oz. as the old 4-oz. and 10-oz. We shall still continue the undermentioned as usual.

LIQ. CHLORODYNI

As originally introduced by A. P. Towle, and free from stamp duty for dispensing. 4 ozs., 4s.; $\frac{1}{2}$ lb., 5s. 6d.; 1 lb., 10s.

Also in quantities of 6 lbs. and upwards at special quotations.

TOWLE'S CHLORODYNE LOZENGES AND JUJUBES

In 1, 2, and 4 lb. bottles, at 3s. per lb., and 6d. and 1s. boxes. Foiled, lined, and neatly got up for the counter, 4s. 6d. and 9s. per doz. Quantities of 7 lbs. of Lozenges and upwards stamped with chemist's own name free of charge.

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75 BACK PICCADILLY, MANCHESTER.

Show Cards and Bills with name on application with instructions for forwarding.



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THE ORIGINAL AND ONLY TRUE.



Discovered and Invented by RICHARD FREEMAN in 1844.

IT IS THE GREATEST MEDICAL DISCOVERY OF THE PRESENT CENTURY.

IT is the best known remedy for COUGHS, CONSUMPTION, WHOOPING COUGH, BRONCHITIS, and ASTHMA.

IT effectually checks and arrests those too often fatal Diseases—DIPHTHERIA, DIABETES, FEVER, CROUP, AGUE, &c.

IT acts like a charm in DIARRHOEA, and is the only known Specific in CHOLERA and DYSENTERY.

IT is the only Palliative in RHEUMATISM, GOUT, CANCER, TOOTHACHE, MENINGITIS, &c.

IT effectually cuts short all attacks of PILEPSY HYSTERIA, PALPITATION, CONVULSIONS, and SPASMS.

IT rapidly relieves pain from whatever cause, allays the irritation of Fever, soothes and strengthens the system under exhaustive diseases, restores the deranged functions, stimulates healthy action of the secretions of the body, gives quiet and refreshing sleep, and marvellously prolongs life. It may be taken by old and young at all hours and times.

IT is extensively used by Medical Men in their official and private practice, at home and abroad, who have given numerous written testimonials of its wonderful efficacy.

IMPORTANT CAUTION.—Four Chancery Suits terminated in favour of FREEMAN'S ORIGINAL CHLORODYNE and against Collis Browne and Davenport. Lord Chancellor Selborne, Lord Justice James, and Lord Justice Mellish condemned their proceedings, and decreed them to pay all costs. Reports of the suits in "Times," January 12 and July 13, 1864, and April 29 and July 24, 1873, and "British Medical Journal," May 3, 1873.

Sold in Bottles, 1s. 1½d.; 2 oz., 2s. 9d.; 4 oz., 4s. 6d.; 8 oz., 9s.; half pints, 11s.; and pints, 20s. each; and for dispensing only in bottles, fl. 8 oz. 8s., and fl. 20 oz. 18s. (in weight one pound and a half).

Purchasers are cautioned not to have palmed upon them any substitute. There are other articles bearing the name of Chlorodyne, but quite devoid of its wonderful effects. See that the Trade Mark, "The Elephant," is on the wrapper, &c., and that the words Freeman's Original Chlorodyne are engraved on the Government Stamp, which is the only true Chlorodyne.

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(MR. WHITE many years Manager to Messrs. E. GOULD & SON at above address),

MANUFACTURERS OF HOMEOPATHIC MEDICINES & SPECIAL PREPARATIONS.

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Put up ready for sale in Cardboard Cases, labelled with general directions and dose, and enclosed in $\frac{1}{4}$ doz., $\frac{1}{2}$ doz., and 1 doz. slide boxes, FOR CASH, forwarded on receipt of business card.

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Emp. Plumbi. Ferri et Ammon. Cit. " Rhombos.
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" Roborans. " Iodidum. Visens (Birdlime).

Sole Proprietors of Kay's Specialities.

Kay's Compound Essence. " Coaguline" Cement. Linseed Lozenges. [Loz.
Throat Lozenges. Iache. Cue Cement. Chloro - Linseed Cough
Instant Cure for Tooth- Improved Cue-Tip Fixer. Sapo-Lini, Toilet Soap.
Linum Catharticum Pills. Lava Cement. [Bls. Absorbent Cotton Wool.
Aspinall's Wind Pills. Pat. Tubes for Feeding Cheshire Hunt Sance.
Tic Pills. [Warts, &c. Stramoniun Cigarettes. De Tabley Sance. [&c.
Painless Solvent for Corns. Chemical Disinf-ctant. Marking Ink, for Linen.

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THE VIRTUE OF THIS SALVE is not confined to the Female Breast alone, but it is equally efficacious in CURING all those complaints where inflammatory action is present, and to which the body is ordinarily or accidentally subject, such as ABSCESSSES, TUMOURS, ULCERATIONS, BAD LEGS, BED SORES, BURNS, SCALDS, BRUISES AND CRUSHES, FESTERED FINGERWS, &c., &c., and numerous persons have testified of the GREAT RELIEF they have obtained from its use in MUSCULAR RHEUMATISM while hosts of Genuine Testimonials from persons unknown to us have been received unitedly testifying to its wonderful and unequalled efficacy as a BREAST and FAMILY SALVE.

NOTE.—CHEMISTS, PATENT MEDICINE VENDORS, &c., who do not keep this article in stock are requested to give it a trial. It will be found to be the FINEST SALVE that can be stocked, and once known recommends itself. For the Breast it is not equalled by any Ointment or Salve made; and as a Family Salve, for use in all external ailments where inflammation is present, as enumerated above, it is equally valuable and efficacious. The best guarantee that can be given of its intrinsic value is the fact that it has sustained its reputation above all similar preparations for nearly 70 years.

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For over 60 years in use as an excellent remedy in cases of
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Is a valuable remedy in cases of SLEEPLESSNESS and WEAK NERVES. Bottles, **1/-** and **2/-** each.

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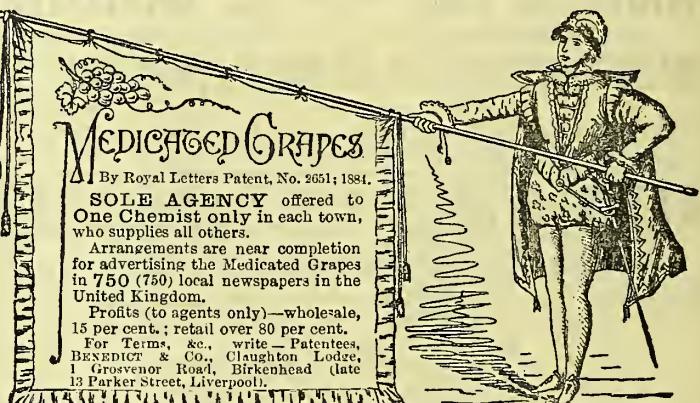
The latest Pharmaceutical novelty. The most tempting of non-secret remedies. Eight (8) formulae are ready for issue, magnificently boxed, and numbered alphabetically. The medicated fruit has all the appearance of a crystallized jujube, and as a vehicle for medicine has not been touched. All formulae printed on labels and wrappers.

FORMULE A is medicated for cough, &c. B is aperient, C for worms. D for tapeworm. E for throat affections. F a strong gastric astringent. G for rheumatic affections. H an efficient blood purifier.

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Dr. Lennox Browne, of London, writes: "An ingenious idea, and without doubt a valuable medium."

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" " No. 1	6/-	1/8
" " No. 2	6/-	1/
Copaiha, Alum and Cubeb	7/-	2/-
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ALL DRUGS WARRANTED TO BE GENUINE.

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Free from rancidity. M.P. 150° F.

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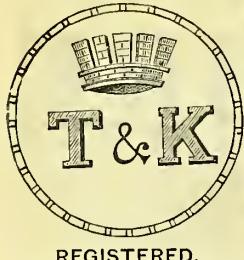
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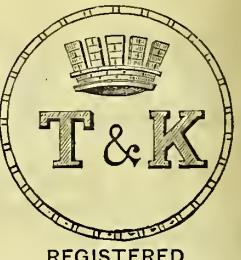
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White and Grey Acetates of Lead, Acetate of Soda, Naphtha, and Sulphuric Acid.
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PEROXIDE OF HYDROGEN

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SAMPLES AND QUOTATIONS ON APPLICATION.

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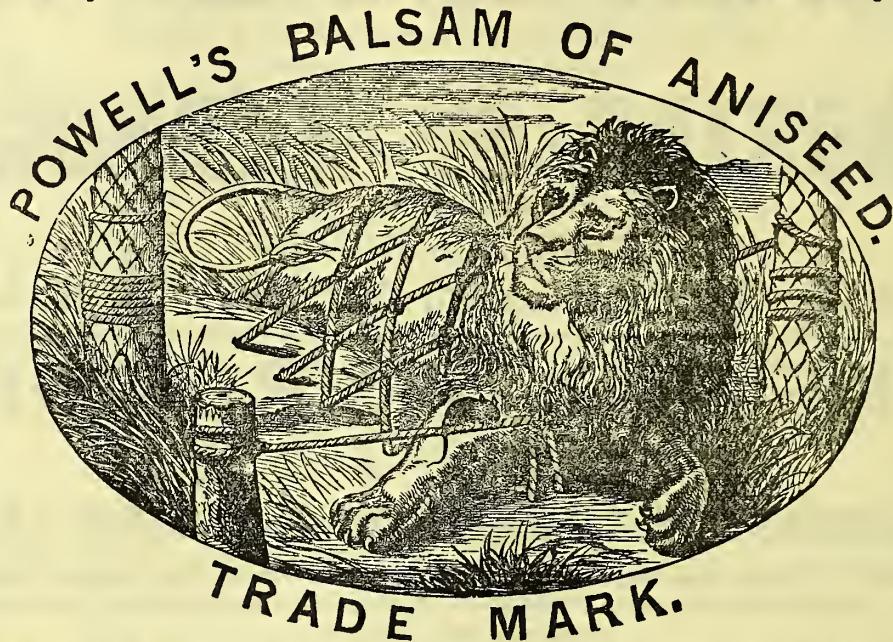
W. B.'S PUREST LIQ. AMMONIA, '880.**W. B.'S PATENT PRECIPITATED CHALK.***Free from "Common Salt," which is found in most of the articles now sold.***BROTHERS & MASON, LIVESEY, BLACKBURN,**

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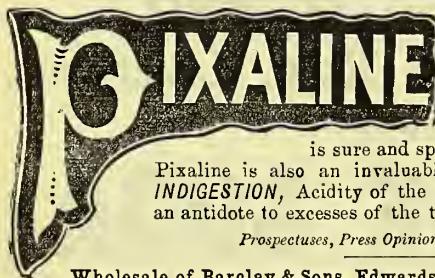
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Prepared by THOMAS POWELL, 4 Albion Place, Blackfriars Road, London.
And sold by Chemists and Vendors of Medicine at 1s. 1½d. and 2s. 3d. per bottle.

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A medicine (prepared from the formula of an eminent London physician) which has proved to be an almost infallible cure for HEADACHE of all types, whether Bilious, Nervous, Neuralgic, or the ordinary Sick Headache. Its action

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A most valuable Embrocation for the cure of Rheumatism, Gout, Sprains, Lumbar, Stiffness and Soreness of the Muscles after over-exertion, Stiff Neck, Sore Throat, and all Muscular pain.

For Chilblains (unbroken) Zillo is a specific, usually curing them in one night.

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Dr. Wright's *(IMPROVED)* Pulmonic *(EUCALYPTUS)* Candles.

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The breathing passages become freed, and perfect respiration is soon re-established and maintained, in any room in which one (or more) of these Candles is kept burning.

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unusually strong testimony is afforded by the reports of Professors ATTFIELD, STODDART, HEISCH, Dr. PHIPSON, and other eminent Medical and Chemical Authorities; whilst the "Lancet," "British Medical Journal," "Medical Times and Gazette," as well as the other organs of the profession highly extol their virtues, and recommend their use.

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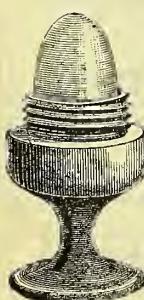
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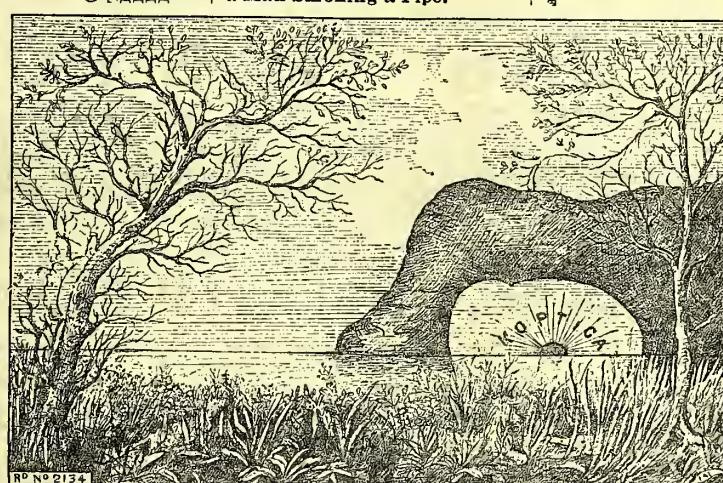
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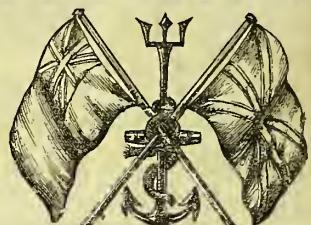
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THESE Solubles are infinitely superior to the ordinary rigid Capsules, inasmuch as they are flexible, and accommodate themselves alike to the throats of children as well as of adults.

Being sweet and pleasantly flavoured, the most nauseous medicines may be taken by the aid of a little water without inconvenience, the Solubles readily assimilating themselves to the contents of the stomach, and leaving no disagreeable taste in the mouth or odour to the breath after being taken.

A larger quantity of Cod Liver Oil, Castor Oil, or other nauseous medicines can be taken in one Soluble than by the old rigid form of Capsule.

Only the very finest qualities of Medicines and Medicinal Oils are allowed to be used in their manufacture, or administered through the medium of Chevalier's Solubles.

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No. 1 contains about 12 drops (10 min.)

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The Cod Liver Oil Solubles contain one ordinary dose in a single Soluble, whereas it requires 10 to 15 of the ordinary rigid Capsules before a single dose can be administered. Three of Chevalier's Castor Oil Solubles contain sufficient for an adult dose. Hitherto it has been almost impossible to administer this medicine by the ordinary rigid Capsules.

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The greatest cure for Urinary Ailments.

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HOLLOWAYS PILLS & OINTMENT

Have the Largest Sale of any Medicine in the World.

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INDEX TO ADVERTISEMENTS,
See pages 39, 40.

The fatal effects frequently following the use of Narcotics in Patent Medicines suggested to the Proprietor of

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the advisability of having his Powders tested by DR. HASSALL, the result of whose analysis is certified below, hence vendors need be under no apprehension of the pain, trouble, and censure connected with most inquests, the occasional result of fatal doses of Patent Medicines.

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THE ANALYTICAL INSTITUTION,

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LONDON, 29th Nov., 1877.

REPORT ON THE TEETHING POWDER PREPARED BY
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I hereby certify that I have purchased a sample of STEDMAN's Teething Powder, and have, at the request of the Proprietor, subjected it to Analysis for Morphia or Opium in any form.

I am enabled to state that I found the sample in question to be absolutely free from Morphia, or any other Alkaloid or constituent of Opium.

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Thus Vendors need not be under any apprehension of interference either by Police or Coroner, as the FREEDOM FROM NARCOTIC removes Stedman's Teething Powders from the "Scheduled Poisons" List, and prevents the possibility of inquests on account of the administration of these Powders.

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are best distinguished by their proper brand, a Gum Lancet (as above), which specify in ordering.

Price 78/- per gross net.

Eight 11s. Boxes, each containing 216 Powders, for £4 net.

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Full Size, and Prepared throughout with Howard's Materials.

Loose, 5s. 6d. per gross; in 1 doz. Coloured Boxes, Wrappers, &c., 6s. per doz. net.

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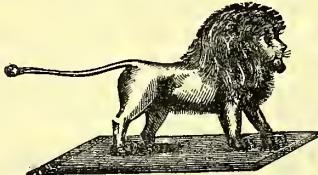
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E. BURGESS' LION OINTMENT & PILLS

Cure the worst and most obstinate cases of Ulcers, Abscesses, Cancers, Tumours, Polypi, Carbuncles, Fissures, Poisoned Wounds of all kinds (including Dog and Venomous Bites), and every form of Eruption and Skin Disease; also Ulcerated and Cancerous Affections peculiar to Females, without the aid of Lancet or Knife. Numbers have been cured after leaving various London Hospitals as incurable, or curable only by amputation.

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ERSKINE HOUSE, NEAR TIDAL BASIN, VICTORIA DOCKS: Dec. 31, 1883.

DEAR SIR.—I beg to inform you I have not to spot about me, and I believe you are an instrument in the Almighty's hands to do good for your fellow-creatures. Anyone to do me this time twelve months, and see me now, would say it was the greatest miracle ever made in skin disease. I have had spots on me for about forty years, have taken medicine of every description, baths, &c., &c., until November, 1882, and nothing ever could touch it. I was then recommended to use the Lion Ointment and Pills as a certain cure, and I found them the masterpiece of the world. I have consulted great men, and they could not touch it. People must not be afraid of using the Lion Ointment; the more it pinches them the more it is drawing the disease out—only persevere, and the Lion Ointment and Pills will do their work. Now, God bless you in your undertaking.—From yours faithfully,

MR. BURGESS.

SILVESTER STONEHOUSE STUART.

ALMA ROAD, next door to EAST HILL HOTEL, WANDSWORTH, late 2 BOLTON ROAD,
GROVE PARK, CHISWICK, MIDDLESEX: February 7, 1883.

DEAR SIR.—I am happy to forward to you the following testimonial of the great value of your Lion Ointment and Pills. Through the ill-treatment of my husband I have been suffering with poisoned blood, and, in consequence, a large abscess formed in my neck, also syphilis affecting my leg. I have, too, been suffering many years from a diseased hip. I consulted several physicians, who said that I should not recover unless I had the bone taken out. Last May, 1882, I was advised to use your Lion Ointment and Pills; by so doing I can scarcely describe the benefit I received in a very short time, and I am happy to tell you that they saved my life, and I am now perfectly cured. Hoping through my case your wonderful Ointment and Pills may get well known for the benefit of my poor fellow-creatures. You are at liberty to refer anyone to me at any time should you wish.

I am, Sir, yours respectfully, ELIZABETH STILLWELL.

To MR. E. BURGESS.

PROSPECT HOUSE, AMERSHAM COMMON: June 25, 1881.

SIR.—Please send me by return one box of your Pills. The box of Lion Ointment I sent for is for Erysipels in the face; do you think it suitable? [Most effectual.] Also send me another box of the Lion Ointment, I have enclosed stamps for the same. I have had Ointment from you before through a friend of mine. I had been suffering from a small tumour in the head for some years, and had the advice of medical men, and all said I must have it taken out; but, on applying your Ointment, in a fortnight it drew it out and made a complete cure of it.—Yours respectfully,

To MR. E. BURGESS.

MRS. E. HILL.

ELM LODGE, WIMBLEDON PARK, late 26 BALLANTINE STREET, YORK ROAD:

WANDSWORTH: January 17, 1881.

DEAR SIR.—Having attended St. Thomas's Hospital for nine months, suffering greatly with a *tumour*, extending from the back of the ear to the collar bone, affecting the shoulder, and receiving not the least benefit, I was earnestly persuaded to give your Lion Ointment a trial. By so doing I can sincerely describe the benefit I received in a very short time. I am truly thankful to state I am quite well and am able to resume my duties without trouble or inconvenience. I was also attended by several doctors during the five years I have been suffering from the *tumour*, not having received the slightest benefit. Dear Sir, you are at liberty to publish this, or send anyone to my residence for satisfaction.—I am, Sir, yours most respectfully,

MR. J. GRIFFIN.

To MR. E. BURGESS.—[The above was a most serious case. Photographs of the same, cured and cured, and the Fungus and Diseased Bone drawn away by the Ointment, can be seen on application at 117 High Holborn, W.C.]

7 SHAFTEBURY PLACE, ALDERSGATE STREET, E.C.: May 20, 1882.

SIR.—It gives me great pleasure to add to your numerous testimonials. For four years I suffered with a very bad leg, and attended St. Bartholomew's, the University, and Dalston Hospitals, and various Dispensaries, where they told me it was a cancerous ulcer, incurable, *that I must lose my leg*. However, being recommended to use your Lion Ointment, I did so, and in three months the cancer was drawn away, and my leg made quite well.—I remain, yours &c.,

TO MR. E. BURGESS.

LUCY IBBS.

DEAR SIR.—I feel it my duty to thank you for the wonderful way in which your Ointment has cured my hand of skin disease, which I had endured for over nine years. I had to give up my work at Mr. John's Mill, Wandsworth, and purchased a box of your Ointment, and by the end of the fourth week it had perfectly cured my hand, and I have seen nothing of it since. Previously to applying your Ointment I had been to my own doctor at Wandsworth with it, and also to several Skin Disease Hospitals in London, but to no avail. They said it could not be cured, and must, therefore, be endured; but, as I said before, your Ointment has cured it. When I came out here (two months ago), I brought some with me, and am glad I did, for I have found it very useful. I gave some to a gentleman who had his legs covered with Notal sores, and could not walk for them, and it has perfectly cured them. I have been obliged to send home to my friends to send me out some, which I expect shortly to arrive, for, as I said before, it is very useful; in fact, cures everything in which I have tried it. If only you had an agent here, I would recommend it to everybody.—I am, dear Sir, yours, &c.,

MR. BURGESS.

SUSAN S. SMITH.

Various Cancers, Tumours, Diseased Bones, &c., extracted by the LION OINTMENT AND PILLS; also Photographs of Cases Cured are on view at 117 High Holborn. A guarantee of their virtue.

A good sale for this remedy always follows its introduction by proof of its efficacy. Foreign Houses will do well to order samples through their English agents, also supplies of Bills, PHOTOGRAPHS OF CASES CURED, &c., which ALWAYS ensure a connection.

The Ointment is put up in air-tight, grease-proof boxes, and will keep good any length of time in any climate. The Pills are in stout wooden boxes, and also retain their virtue for years. Prices, 1s. 1½d., 2s. 9d., 4s. 6d., 1s., and 22s. each.

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The Proprietor knew from experience that success was certain, but the human breast is so imbued with prejudice, that it forms one of the strongest barriers to break down and the greatest enemy to overcome before any headway can be made towards the mansion of success. Truth has often proved itself to be "stranger than fiction," and it is a fact as solid as truth that

BEECHAM'S PILLS

have now become one of the leading Patent Medicines of the present day. From north to south, and from east to west, they are to be found in the homes of the rich and the poor. All classes of society use them, and they are by thousands declared to be

WORTH A GUINEA A BOX.

For a Weak Stomach, Impaired Digestion, and all Disorders of the Liver, they act like "MAGIC," and a few doses will be found to work wonders on the most important organs in the human machine. They strengthen the whole muscular system, restore the long-lost complexion, bring back the keen edge of appetite, and arouse into action, with the ROSE-BUD of health, the whole physical energy of the human frame. These are "FACTS" admitted by thousands, embracing all classes of Society, and one of the best guarantees to the Nervous and Debilitated is, BEECHAM'S PILLS have the LARGEST SALE of any Patent Medicine in England.

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CAUTION.—The Public are requested to notice that the words "BEECHAM'S PILLS, ST. HELENS," are on the Government Stamp affixed to each Box of the Pills; if not on, they are a Forgery.

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N.B.—FULL DIRECTIONS ARE GIVEN WITH EACH BOX

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(Chemists by Appointment to the London Homœopathic Hospital),

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AGENT'S CASE.**CONTENTS REALISE £5.**

List of contents and of other Show Cases post free on application.

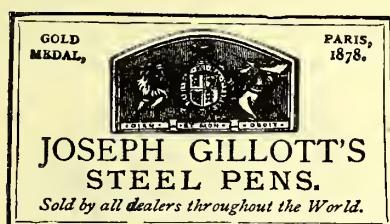
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Lozenges of all descriptions made from Customers' private formulæ (or ingredients), and stamped with any name or device.

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ESTABLISHED 1843.

PRICE LIST ON APPLICATION.



100 Rats destroyed for a Shilling by
BARBER'S PHOSPHOR PASTE,
WRAPPED NEATLY FOR THE COUNTER.
Handsome, attractive Posters supplied; if conspicuously placed will command constant sale.

Kills Rats, Beetles, &c., DRY UP THE DEAD VERMIN WITHOUT SMELL.



Guaranteed the best destroying Paste in the world.

BARBER'S VERMIN KILLER,
In 3d., 6d., and 1s. Packets. Kills Mice upon the spot.

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"I have been more than forty years employed at Hampton Court Palace, the Royal Stables, and other buildings in and around the Royal Parks, for the destruction of rats, mice, and other vermin. I have the entire charge of this duty, and after trying all the rat poisons which I have heard of at different times, I now use Barber's Phosphor Paste, and Vermin Killer, with which alone I am able to keep these ancient places and national works free from vermin." Signed, CHARLES SHONES."

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THOMPSON & CAPPER have now for many years, with the greatest benefit to their Agents throughout the world, supplied, *free of cost*, Books for Gratuitous Distribution, compiled by themselves, containing complete directions for using the Homœopathic Medicines, a plentiful distribution of which invariably ensures a large sale. Handbills also, with name, *ad lib.*

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As now used by Messrs. Holloway, Cockle, Cox, and all the principal Pill Makers in England, Australia, America, and France.

Fig. A.—This invention consists in a novel and improved arrangement of Machinery, whereby any description of Pill Mass can be converted into Pills, at the rate of from 15 lbs. to 40 lbs. per hour, according to the size of the Machine used.

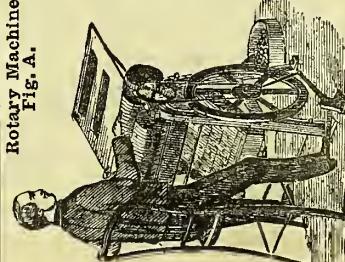


Fig. A.—This invention consists in a novel and improved arrangement of Machinery, whereby any description of Pill Mass can be converted into Pills, at the rate of from 15 lbs. to 40 lbs. per hour, according to the size of the Machine used.

ROTARY PILL

Fig. A.—No. 1...£12 12s

" 2...£13 13s
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NG Machines, from £3 Improved Double Action

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PILL COASTER,

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By an entirely new arrangement of mechanism this machine is constructed in a manner which supersedes all others, as, owing to its "Eccentric" motion, the Pearls—which may be coated with Pearl, Silver, Gold, or Sugar, &c., &c.—are thoroughly separated from each other during the process, and retain their original spherical form whilst being thrown round the receptacle with remarkable

These machines are equally adapted for
containing large or small quantities; thus, a
machine constructed for and suitable for
containing 20 lbs. will coat 1 lb. only with
equal effect, and in the most satisfactory
manner.

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The smallest machines can be worked by Steam Power; at a small additional cost.

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This addition will be found of great advantage in the Laboratory, being both efficient and compact.

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This LINT, unequalled by any other, has been before the Public for about Thirty Years, during which time it has been most extensively used in the British Army and Navy, in a large number of British and Foreign Hospitals, and by the Medical Profession generally.

Its advantages are that, being made from fine Flax Fibre, it is perfectly free from all impurities, and, for Surgical purposes especially, is infinitely superior to Lint made from any other material.

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3s. 8d. per lb.

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THE BEST HOUSE FOR LONDON-MADE TRUSSES
OF SUPERIOR QUALITY AND FINISH AT LOWEST
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(PATENT ABSORBENT GAUZE AND COTTON WOOL.)
ABSORBENT COTTON WOOL.
ROLL BANDAGES.

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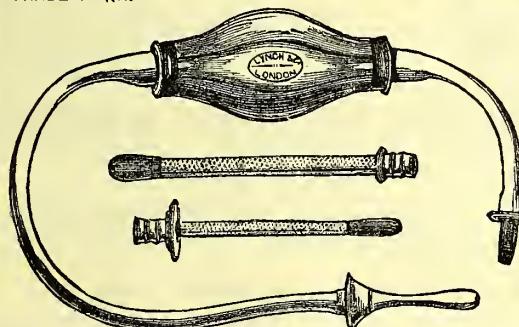
MARK STREET MILLS,
NETHERFIELD ROAD NORTH, **LIVERPOOL.**

INDEX TO ADVERTISEMENTS,
See pages 39-40.

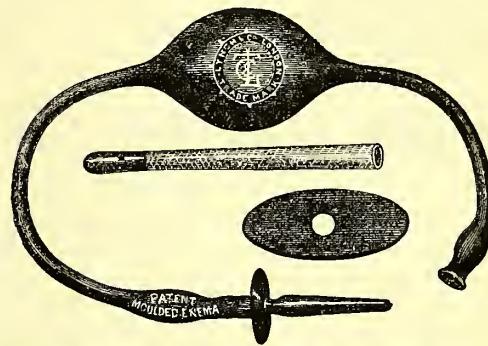


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No. 435 D.

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SUBJOINED ARE PRESENT PRICES:

			£ s. d.
433A.	HIGGINSON'S, unvarnished india-rubber, with rectum pipe only, in slide cedar boxes	per doz. 1 5 0
433B.	Ditto, with elastic-gum vagina pipe and leather shield	... ... ...	" 1 10 0
434.	Ordinary Higginson's, barrel shape, with bone rectum pipe, elastic gum vagina pipe, to plug on, and patent leather shield, in slide cedar box	... ... ...	per doz. 1 12 0
434AA.	Ditto, fitted with vagina pipe with reversed current	... ... ...	" 1 16 0
434A.	Ditto, ditto, with disconnecting mounts	... ... ...	" 1 14 0
435C.	LYNCH'S (Higginson's principle), black, green, red or white india-rubber, requiring no metal mounts, in one continuous piece, <i>warranted not to split</i> , fitted with vulcanite rectum pipe, in slide cedar box	... per doz.	1 10 0
435D.	Ditto, with elastic-gum vagina pipe, and leather shield, in slide cedar box	... ... ...	" 1 15 0
436.	LYNCH'S FAMILY (Higginson's principle), fitted with bone bulb pointed rectum pipe for adults, elastic-gum vagina pipe, and elastic-gum rectum pipe with bone shield for children, in mahogany box	per doz. 2 8 0
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437A.	LYNCH'S PERFECTION, in mahogany box	" 2 17 0
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437C.	Ditto, in superior mahogany box, with lock and key	" 3 12 0
437D.	Ditto, in oval boxes of cloth and leather	" 2 15 0
437E.	LYNCH'S COMPLETE HOUSEHOLD SYRINGE, consisting of Higginson's Enema with disconnecting mounts, fitted with bone bulb-pointed rectum pipe for adults, elastic-gum rectum pipe with bone shield for children, elastic-gum vagina pipe, and bone pipes for ear, eyes, and nose, in mahogany box	each 0 7 6

Discount—10 per cent. Monthly, 5 per cent. Half-yearly Account.

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LYNCH & CO.,

Wholesale and Export Chemists and Druggists' Sundriesmen,
Surgical Instrument Makers,

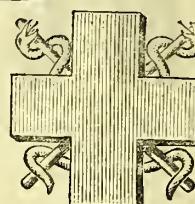
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HARTMANN'S PATENT WOOD WOOL.

(IMPERGNATED WITH



CORROSIVE SUBLIMATE).

TRADE

MARK.

A NEW ABSORBENT AND ANTISEPTIC DRESSING MATERIAL.

PATENTED AND MANUFACTURED BY PAUL HARTMANN.

This material created on its appearance in this country a DEEP interest in the surgical profession, and its STRIKING advantages and GREAT merits as an absorbent and antiseptic dressing have been fully recognised by the most Eminent Authorities of the British Medical Profession.

Hartmann's Patent Wood Wool is now already largely used in the leading London Hospitals.

Sir WILLIAM MAC CORMAC, F.R.C.S., writes under date March 6, 1884:—"I am much satisfied, so far, with the trial I have made, and I think this Sublimate Wood Wool will be extensively used."

The following is an extract of a letter of J. W. BATTERHAM, Esq., B.S. Lond., House Surgeon to the South Staffordshire General Hospital, Wolverhampton, in the BRITISH MEDICAL JOURNAL of July 12, 1884, page 67, with reference to "Wood Wool" as a surgical dressing:—

"Wood wool has been recently used in this hospital for antiseptic dressings. It is found most convenient to make pads of the wool by placing it between two layers of gauze, such as is used in Lister's dressings. Such gauze can easily be obtained saturated with perchloride of mercury instead of carbolic acid, or it may be readily prepared by steeping the gauze in a 0·2 per cent. solution of corrosive sublimate in distilled water, to which about one-tenth its weight of pure glycerine has been added. Bandages can be prepared in a similar way. By applying the wool in pads the removal of soiled dressings is greatly facilitated.

"Our usual method of procedure in cases where this dressing is employed is as follows:—The hands of operators and the parts operated upon, having been washed with soap and water, are sponged with a solution of corrosive sublimate (1 in 1,000). The instruments used are previously dipped in the same solution, and the wound is well washed with it before the dressings are applied. I have generally covered the wound, beneath the pad, with a layer of protective dipped in the corrosive sublimate solution. The impermeable jaconet is applied over the pad of wood wool, which has in most cases been retained *in situ* by an ordinary calico roller.

"Under this treatment, large abscesses and suppurating bursae have been opened, and several minor operations performed. The temperature after operation has in no case risen to 100° Fahr., and in most cases has remained below 99° Fahr. I recently dressed a bad compound fracture of the forearm (inflicted with a chaff-cutting machine) in the manner described. At the time I am writing—the third evening after the injury—the patient's temperature is 98·6° Fahr. These results, I think, warrant a trial of this method of dressing in major operations. The method is simple. The dressing is cheap; and its great absorptive powers render frequent change of dressing unnecessary. Patients have told me that they prefer it to the ordinary Listerian dressing, as it 'feels more comfortable.'"

J. G. MARSHALL, Esq., M.B. Cantab., M.R.C.S., &c., House Surgeon, Doncaster General Infirmary, writes under date August 19, 1884:—

"Hartmann's Wood Wool is the most satisfactory antiseptic dressing I have ever employed, being dry and soft, and absorbing discharges better than any material I know of."

WOOD WOOL is packed in 1-lb. and 10-lb. Bags, price 1s. 6d. per lb. Samples and Pamphlets gratis and post-free on application.

We beg to draw the attention of the Medical Profession to **HARTMANN'S SUBLIMATE GAUZE**, which surpasses in Power of Absorption and quality any other Gauze in the Market.

We also recommend all other Hartmann's Dressing Materials, which have found so much favour all over the Continent.

HARTMANN'S HYGIENIC WOOD WOOL DIAPERS.

(PATENT WOOD WOOL IMPREGNATED WITH CORROSIVE SUBLIMATE.)

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UNEQUALLED AND UNRIVALLED FOR GENERAL USE AND ACCOUCHEMENT.

In the construction of these Diapers we have acted upon the suggestions of an eminent London Obstetric Physician, who after repeated trials of them among his patients, now pronounces **HARTMANN'S HYGIENIC WOOD WOOL DIAPERS** perfect in material and form, and the most convenient, comfortable, and healthful appliance ever provided for this special purpose.

The essential requirements in Diapers are the rapid and thorough absorption of all secretions, and the prevention of odours resulting from decomposition. Nothing hitherto produced answers these requirements so perfectly as **HARTMANN'S HYGIENIC WOOD WOOL DIAPERS**.

For protection against useless and injurious imitations, the label of each package and every single Diaper bears the name and trade mark of the Patentee and Manufacturer of Wood Wool—**PAUL HARTMANN, Heidenheim**, whose patent rights are rigidly protected.

To be had in Packages of Six Diapers each at 2s. per package of every Chemist, Surgical Instrument Maker, and Ladies' Outfitter.

Sample Packages by Parcels Post, with pamphlets, for 2s. 3d., or Five Packages for 10s., direct from the Sole Consignees, Messrs. ESSINGER & NEUBURGER, 11 Hatton Garden, London, E.C.

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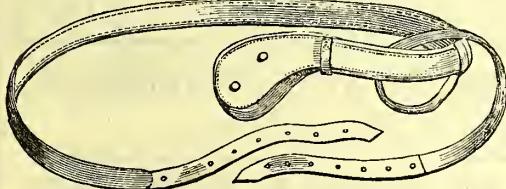
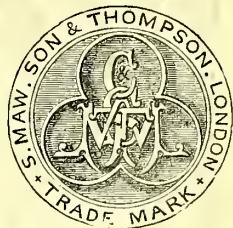
HARTMANN'S AWARDS.—Exhibition, Stuttgart, 1881, GOLD MEDAL; Hygienic Exhibition, Berlin, 1882, GOLD MEDAL; International Pharmaceutical Exhibition, Vienna, 1883, GOLD MEDAL.

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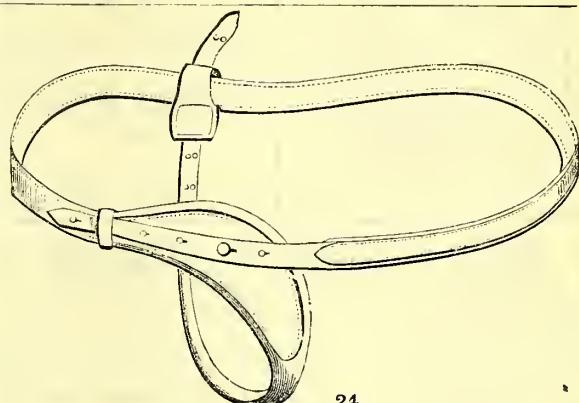
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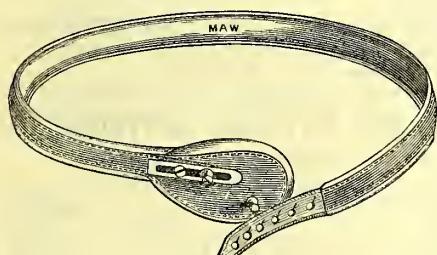
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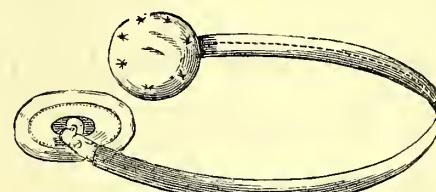
5



24



4



15

Circular (Fig. 5), 14 to 40 inches—

Single Double

Covered with Basil and Moleskin	per doz.	21/	...	34/
Covered with Roan and Moleskin	"	16/	...	30/
Covered with Blue or Red Morocco and Moleskin ...	24/	...	40/	

Circular (Fig. 4), with Slide Pad, 30 to 40 inches—

Covered with Blue or Red Morocco, and Lined with Calf	per doz.	32/	...	54/
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Circular Scrotal (Fig. 24), 30 to 40 inches—

Covered with Basil and Moleskin	per doz.	48/	...	84/
Covered with Roan and Moleskin	"	40/	...	68/

Salmon & Ody's (Expired Patent) (Fig. 15), 30 to 40 inches—

Covered with Calf and Chamois Leather	per doz.	27/	...	54/
Covered with White Roan	"	36/	...	72/

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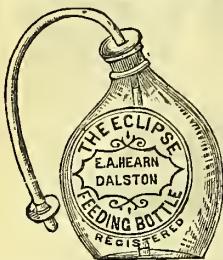
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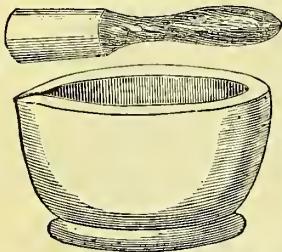
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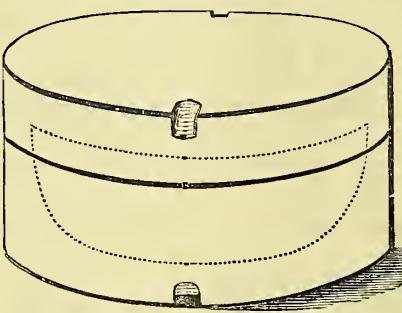
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2nd.—The Covers being made quite flat, labels can be affixed with ease, and without creasing.



3rd.—The inside of the Pots being rounded or egg-shape, the contents can be entirely removed without waste.

4th.—Great attention has been paid to insure accuracy of contents.

PRICES.	1/	1/	1/	3/	1	1½	2	3	4	6	8 oz.
	18/-	18/-	18/-	20/-	22/-	24/-	27/-	34/-	42/-	54/-	66/- per Gross.

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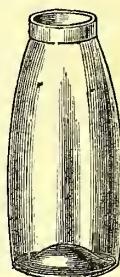
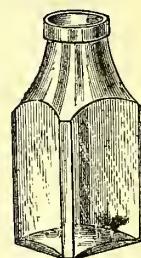
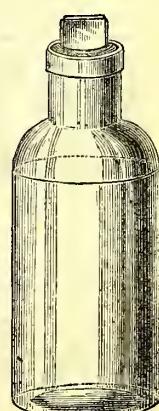
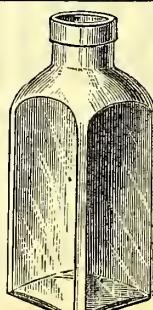
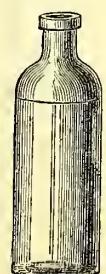
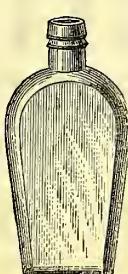
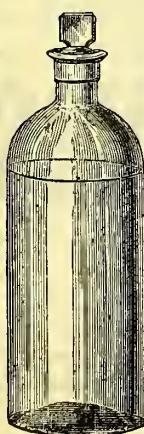
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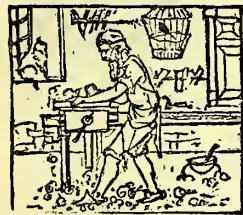
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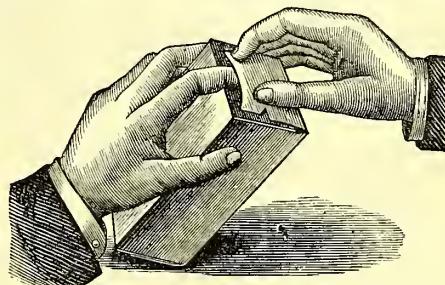
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(NO MUSTY FLAVOUR).****FELTOE & SONS,**
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With the Upper Classes give more satisfaction than any others.
WILL RETAIL AT 50 PER CENT. PROFIT. 12/, 14/, 16/, 20/, 22/
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ORIGINAL MAKERS OF INDIA WAX FOR HOT
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Price 7d. per gallon.

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THE LION GOUT & RHEUMATIC MIXTURE**

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a new and surprising
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Fosters to see Teeth,
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Dry in 5 minutes; Insoluble in Turps or Oil; Waterproof.
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CHARCOAL COMPOUND.
TO PROLONG LIFE.
For all complaints, especially Wind, Bad Digestion, Spasms, &c.

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(In Boxes at 1/13, 2/9, & 4/6 each.)
FOR ALL DISORDERS OF THE STOMACH,
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Makes Starched Linen like new. Does not stick to spider-like Materials.
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AGENTS WANTED.

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Salt of every description packed to suit the Trade in Boxes,
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Apply as above. Eleven Prize Medals Awarded.

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All kinds of Crucibles in Plumbago, Clay, &c.,
Single and in Nests.
Muffles, Scoriifiers, Porous Battery Cells, &c., &c.
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X Pink Carbolic Powder, No. 6, in 1-cwt. bags, 6/6 per cwt.; Do., in 1-lb. packets, 12/- per gross; Do., No. 1 quality, in 1-cwt. bags, 8/- per cwt.; Do., in 1-lb. packets, 15/- per gross; Do. Boxes, 3/3 per doz.; 9d., 4/-; 1s., 5/6. Less 10 per cent. for Cash on delivery. X

Pink Carbolic Acid, soluble in water, 1/6 per gallon. Carbolic Acid, all kinds, from 1/ per gallon. Grease, Chloride of Lime, Oils, Carbolic Soap, &c. London Soot and Sewage Manure, 35/- per ton. Special quotations for Shippers and large quantities.

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Ovals from 2/6; Name Stamps 1/-.

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When used with our Improved Black Ink Rubber Stamping is equal to letterpress printing.

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Price (in bulk) for dispensing, 4/6 per lb. Put up in 1/2-oz., 1-oz., 2-oz., and 4-oz. stamped bottles at very moderate terms. We supply over 100 Provincial medical men.

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Pure Charcoal, selected and specially prepared for Medicinal, for Deodorising, and other purposes, by

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Pumice, lump and powder; Fuller's earth, lump and powder, and in packets. Lowest prices in the trade. Write for quotations and samples of these and other goods.

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HORSE, CATTLE, AND SHEEP MEDICINES.

By Special Warrant,
Dated 27th December, 1865.

BY ROYAL APPOINTMENT.

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INVENTORS AND SOLE PROPRIETORS OF THE



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"ORIGINAL" STOCK BREEDERS' MEDICINE CHESTS.

For all Disorders in Horses, Cattle, Calves, Sheep, and Lambs.

Patronised for 50 years by Royalty, and the principal Stock Breeders, Horse Proprietors, and Agriculturists of the British Empire.

The No. 2 MEDICINE CHEST contains the following matchless remedies:—

“CHEMICAL EXTRACT,” for all External Injuries, and Ewes Lambing.

“GASEOUS FLUID,” for Colic, Scour, or Diarrhoea, and Debility.

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“GASEODYNE,” for Heaving and Paining, “CARMINATIVE CHALK,” &c.

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CARRIAGE PAID TO ALL PARTS OF THE BRITISH ISLES.

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SHEEP AND LAMB DIPPING COMPOSITION,

For Destruction of Ticks, Lice, &c., and Prevention of Fly.

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CURE FOR DISTEMPER, price 2s. 6d. per box, or post paid 2s. 8d.

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TASTELESS APERIENT BISCUITS, 2s. per box, or post free 2s. 2d.

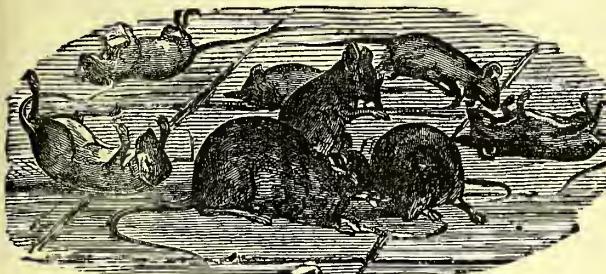
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“THE COMMON SENSE OF DOG DOCTORING,” price 6d., or post free 8d., contains 120 pages of thoroughly Practical Information with regard to the Treatment of Canine Diseases, and Breeding and Rearing of Dogs, and has a most ready sale.

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Is admitted by Hundreds that have used it to be the best Preparation known. 120 rats were found dead by one dressing. Has never been known to fail.



SANFORD & SON, having had 28 Years of Practical Experience in Poisoning Rats, Mice, &c., can with confidence recommend it as the Best Preparation known.

Read the following Testimonials, which have been selected from many that have been received:

SANFORD'S RAT POISON.—It is undoubtedly the best preparation known. It does not require spreading on bread, as is usual. Rats eat it readily, and are found dead.

Mr. SANFORD, Sir.—Your Rat Poison answers well. I found 54 rats killed by it.—F. FOWLER, Farmer, Henlow.

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Sold at 6d., 1s., 2s., and 3s. per Box, with Directions for use.

A TRIAL SOLICITED.

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For Houses, Buildings, Corn Stacks, &c. Cannot be excelled. In Packets, 3d., 6d., and 1s. each, of Chemists or of the Proprietors.

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Wholesale of BARCLAY & SON, SANGER & SON, NEWBERRY & SONS, and others.

DENNIS'S CELEBRATED LINCOLNSHIRE PIG POWDERS.



THESE POWDERS have now been before the Public for Thirteen years. The large and increasing sale, together with the numerous testimonials constantly being received, prove that the public are fully alive to the fact that they are the **BEST MEDICINE** for **DISEASES** to which **PIGS** are subject, and are also the best **CONDIMENT** known. The publicity given to this preparation ensures a good sale wherever introduced, and the Proprietor is desirous to assist all who will undertake to keep them in stock by supplying them with Show Cards, Posters, and Counter Bills, with name and address thereon. They are put up in Packets containing half-dozen and one-dozen Powders, and Retail at Fivepence and Tuppence. The Fivepenny Packets in two dozen and three dozen, and the Tenpenny in one dozen boxes. Retailers will be charged 40/- per gross for Fivepenny, 80/- per Gross for Tenpenny Packets, less 10% One Month, by

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DRUGS, CHEMICALS, PHARMACEUTICAL PREPARATIONS.

GABRIEL & TROKE,

Wholesale and Export Druggists and Manufacturing Chemists,
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GABRIEL & TROKE'S REGISTERED CAPSULED HORSE BALLS,



Manufactured solely by GABRIEL & TROKE,
WHOLESALE DRUGGISTS, 82 CITY ROAD,
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MANUFACTURERS OF ALL VETERINARY PREPARATIONS, EVERY KIND OF VETERINARY INSTRUMENTS AND SUNDRIES.
SAMPLES AND SPECIAL QUOTATIONS FOR LARGE BUYERS.

The superior advantages of these Balls are obvious. The mass is confined in a hermetically sealed Gelatinous Capsule, perfectly harmless, and immediately dissolved in the stomach. The Capsule will not only prevent the Ball from getting dry and hard, but will preserve its purity and power for any reasonable time, and ensure the effectiveness of the medicine—especially when such drugs as Camphor Ammonia, or Essential Oils are prescribed. These Capsuled Balls are most convenient and safe and well adapted for export, keeping good in any climate. They are put up in Boxes of 1 dozen each. Capsuled Balls of the most approved formulae on hand, and private recipes faithfully and accurately dispensed. Shipping orders promptly and carefully executed, and at lowest market prices. Price Lists of a very extensive character in the most handy referable style on application.

HORSES.—LIEUT. JAMES' BLISTER

(Manufactured by R. J. JAMES, the Grandson of the Inventor).

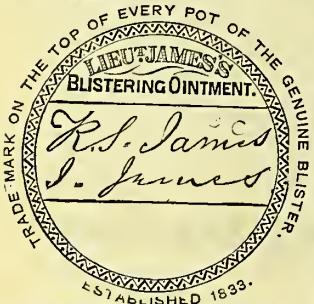


THIS CELEBRATED BLISTER IS NOW OFFERED TO THE TRADE AT THE FOLLOWING REDUCED PRICES :—		
1 oz. pots from	14/- per doz. to	12/6 per doz.
2 "	£1 5 6 "	£1 3 0 "
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Observe the Trade Mark.—"A Horse's Head on the top of each Pot, and the signature, R. J. James."

Wholesale Agents, BUTLER & CRISPE, 4 Cheapside; NEWBERRY, 37 Newgate Street; MAW, SON & THOMPSON, 11 Aldersgate Street; HAYES & CO., Dublin; GOULDING, Cork; FOGGITT, Thirsk; and SANG & BARKER, Edinburgh. Agents for the Colonies required. Apply, with reference, to R. J. JAMES, South Retford, Notts.

JAMES v. JAMES.—LORD ROMILLY, the Master of the Rolls, on February 23, 1872, declared "that I had an equal right with other members of the Inventor's family possessing the receipt to make and sell this Blister."—R. J. JAMES.

**ESTABLISHED 1833.
HORSES.—LIEUT. JAMES'S BLISTER.****CAUTION.**

The annexed Label is at the top of every Pot of the **ORIGINAL** and only **GENUINE BLISTER.**

The Messrs. Barclay & Sons, 95 Farringdon Street, London, and Messrs. Raines & Co., Edinburgh, Liverpool, and York, are now and have been Agents 49 years.

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W. H. JAMES, Sole Manufacturer, STANFORD, FARINGDON, BERKS. Advertised in "Bell's Life" 49 years. Beware of Spurious imitations.

CATTLE MEDICINE

ESTABLISHED MORE THAN FIFTY YEARS.

AND RECOMMENDED BY UPWARDS OF 20,000 AGRICULTURISTS.

CORNER'S PINE'S DEVONSHIRE OILS*For Outward and Inward Application, is the best and cheapest remedy for any ailment Stock is liable to, and no stable, farmyard, or shepherd should be without them.***Cattle and Horses.**—As an Embrocation or Drench for MUD FEVER Bruises, Swellings, Sprains, SWOLLEN UDDERS OF Cows, the Scour in Calves, Internal and External Inflammations, Butts, &c., Wounds or Galls of any kind. **WINE SIZE, 2s.****Lambing.**—Invaluable to the Shepherd during Lambing, for Colds, Inflammations, Cleansing, Udder-ill, Scour, &c.**In Sheepshearing,** for Cuts, Sores, or Sprains.**For the Fly and Maggot in Sheep.**—Nothing can surpass their value in summer for healing the worst Sores caused by the Fly, at the same time invigorating the growth of Wool.**Sole Proprietor, RICHARD CORNER, Wellington, Somerset.**

** Anyone vending an article purporting to be PINE'S DEVONSHIRE OILS, without his Signature on the bottle, will be proceeded against.

Supplied by all Wholesale Houses, of whom Bills, Posters, and Show Cards can be had.

BATTLE'S VERMIN KILLER.

{ Mice eat it readily, and Die on the spot.

Has an immense Sale, and wherever introduced never fails to give satfaction.—Mice appear attracted to it by instinct, if it be only turned over and die on the spot. Rats usually die in their runs.—Parties troubled with Vermin may be cleared at once, either from Stacks, Houses, or Ships.

TESTIMONIALS.—Thousands might be published.

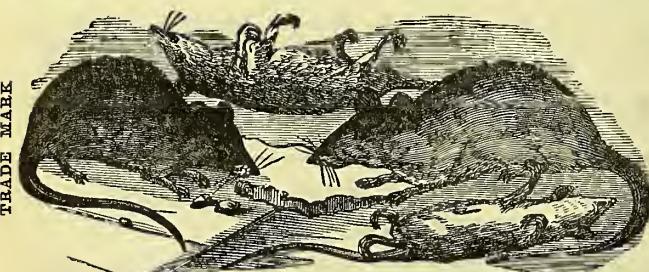
From Mr. THOMAS COLTON, Agent for Selby.—A friend of mine purchased a Packet of your VERMIN KILLER last night, doubting its efficacy; to-day he called to say that he had found fifteen dead mice, and had only used part of a packet.—From Mr. EDWARD STURDY, Wellington.—I duly received by post the Packet of your VERMIN KILLER, and found it as represented in your advertisement. It speedily destroyed all the mice in my house, &c., for which I am very much obliged.—Mr. STEAD, Leeds, November 6th, 1857.—I have tried BATTLE'S VERMIN KILLER, and have found it most effectual in clearing my premises of LARGE QUANTITIES OF RATS.—THOMAS S. CROSLAND.—Mr. Stead.

Sold in Packets, 3d, 6d, and 1s. each.

SOLE PROPRIETOR:

MR. J. R. BATTLE, Chemist, Lincoln, England.
No Chemist or Storekeeper should be without a supply.

TRADE MARK

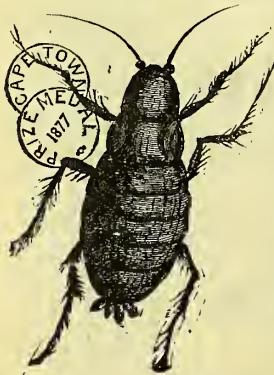
**MACDONALD & CO.,**

SOLE MANUFACTURERS OF

"MacDonald's African Insect Exterminator,"
22 Great St. Helen's, LONDON, E.C.

PRIZE MEDAL AWARDED AT THE SOUTH AFRICAN EXHIBITION, 1877.

This Powder has never been known to fail; it positively kills Beetles, Bugs, Fleas, Moths, Ants, and all Insects, Vermin in Dogs Cats, Poultry, &c. Supplied Wholesale in decorated Tins for Home and Export. Samples post free on receipt of 6d. in stamps.

**MACDONALD'S GARDENERS' INSECT DESTROYER**

For freeing Greenhouses, Gardens, &c., from all Insects.

THIRTY-EIGHT YEARS' REPUTATION.

CANNOT BE EXCELLED.

NEATLY AND CAREFULLY PUT UP.

KILLS RATS & MICE
ON THE SPOT.

TESTIMONIALS.

From Mr. James Froud, Chemist, Dorchester: — "Your poison succeeds to admiration. It is as effective as an infernal machine."

From Mr. Smith, Chemist, Glasgow: — "I have not kept any other 'Vermic Killer' than yours for the last four years. It is the best I ever sold."

From Mr. George Eagle, Merrickville, Sydney, Australia, to Mr. Mitchell, Druggist, Pitt Street, Sydney: — "Sir, — I promised to let you know how 'Hunter's Vermin Destroyer' acted. Its effect was wonderful; in one night it destroyed all the rats and mice about my house, which was swarmed with them."

TESTIMONIALS.

From Messrs. P. Smith & Co., Chemists, Runcorn, Oct., 1880: — "In our opinion your 'Destroyer' is the best extant."

From Mr. James Thompson, Low Hesketh, near Carlisle, to Mr. R. T. Pattinson, Chemist, Carlisle: — "Sir, — You can with confidence recommend 'Hunter's Vermin Destroyer.' It is the best thing I ever used, having often cleared stack-yards with it of both rats and mice in a day or two."

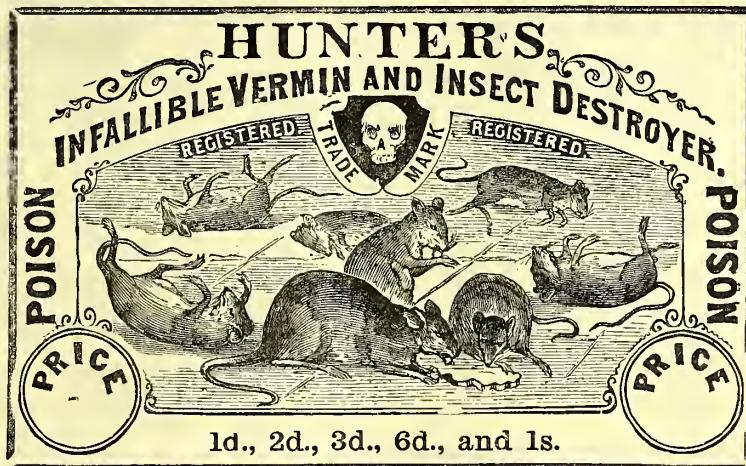
From Mr. Edward Thornton, Chemist, Lyme Regis: — "I can bear testimony to the efficacy of your 'Killer.' Parties who have purchased it of me say that it is the best they have tried. Mice are rapidly destroyed by it, and it quite answers the description you have given of it."

A RESPECTABLE AND SATISFACTORY ARTICLE SUPPLIED TO
RETAILERS, ON THE BEST TERMS, BY ALL THE
WHOLESALE HOUSES.

PRINCIPAL WHOLESALE DEPÔT—

DEWSBURY, ENGLAND.

ESTABLISHED 1846.



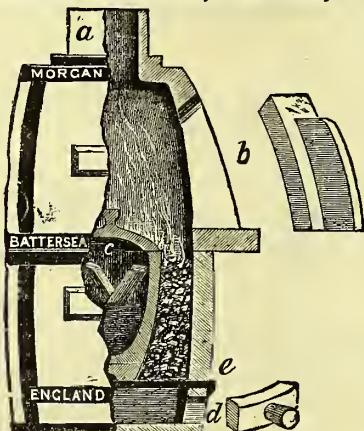
THE MORGAN CRUCIBLE COMPANY

(THE PATENT PLUMBAGO CRUCIBLE COMPANY),
Sole Manufacturers of MORGAN'S and SALAMANDER CRUCIBLES.

PORTABLE FURNACES.

IRON BOUND. EXTERIOR DIMENSIONS.

For MELTING GOLD, SILVER, COPPER, &c.



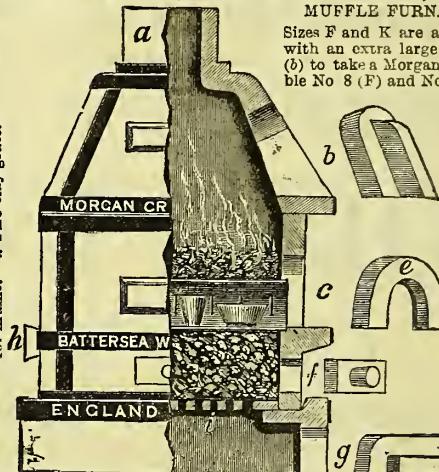
a, Door on muffle to burn chimney. b, Iron fire bars. c, Chimney pipe. d, Door or portable door. e, Fire door.

No.	Diam. in.	Diam. milli.	Height in.	Hauteur, milli.	For Morgan's Crucible.	Price. £ s d
A	9 $\frac{1}{2}$	236	17 $\frac{1}{2}$	445	No. 2	1 0 0
B	9 $\frac{1}{2}$	248	20	508	" 4	1 5 0
C	11	280	22	559	" 6	1 10 0
D	13 $\frac{1}{2}$	349	26	660	" 8	2 5 0
E	14 $\frac{1}{2}$	369	28	712	" 12	3 0 0
F	18	457	32	813	" 16	4 0 0

For ASSAYING, DENTAL WORK, &c.

MUFFLE FURNACES.

Sizes F and K are also made with an extra large top door (b) to take a Morgan's Crucible No. 8 (F) and No. 20 (K).



a, Specification of size for iron door. b, Door for muffle. c, Chimney pipe. d, Door or portable door. e, Fire door. f, Fire door. g, Chimney pipe.

Exterior dimensions. Interior dimensions.

	Width and depth front	Largement et profondeur	Width and depth front	Largement et profondeur	For Battersea Muffles	Price
A	12 $\frac{1}{2}$	318	9 $\frac{1}{2}$	235	A B C D	£ 2 0 0
B	13 $\frac{1}{2}$	337	10	254	B C D E	2 5 0
C	14 $\frac{1}{2}$	369	11	280	C D E F H	2 10 0
D	15 $\frac{1}{2}$	394	12	305	D E F G H	3 0 0
E	16 $\frac{1}{2}$	414	12 $\frac{1}{2}$	324	E F G H	3 10 0
F	17 $\frac{1}{2}$	445	13 $\frac{1}{2}$	350	F G H J	4 0 0
K	23	585	19	483	K L	8 0 0

ROASTING DISHES.

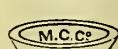
Diam. in.	Diam. milli.	Per doz.	Diam. in.	Diam. milli.	Per doz.
2 $\frac{1}{2}$	664	1/3	4	102	1/9
3	777	1/6	5	127	2/

Larger sizes to order.



SCORIFIERS. (PER GROSS.)

Diam. in.	Diam. milli.	Price.	Diam. in.	Diam. milli.	Price.
1	268	3	2 $\frac{1}{2}$	664	5/
1 $\frac{1}{2}$	382	3/6	2 $\frac{1}{2}$	707	6/
1 $\frac{1}{2}$	388	4	3	777	7/6
2	561	4/6	3 $\frac{1}{2}$	889	9/
2 $\frac{1}{2}$	657	4/6	4	102	10/6



MUFFLES.

With or without apertures.



No.	Long. in.	Wide, in.	High, in.	Price, per doz.	No.	Long. in.	Wide, in.	High, in.	Price, per doz.
A	7	3 $\frac{1}{2}$	2 $\frac{1}{2}$	12/	G	11	4	3 $\frac{1}{2}$	21/
B	7 $\frac{1}{2}$	4 $\frac{1}{2}$	2 $\frac{1}{2}$	15/	H	10 $\frac{1}{2}$	5 $\frac{1}{2}$	3 $\frac{1}{2}$	25/
C	8	4 $\frac{1}{2}$	3	18/	J	12	6	4	33/
D	8 $\frac{1}{2}$	5	3 $\frac{1}{2}$	21/	K	14	8	5	48/
E	9	5 $\frac{1}{2}$	3 $\frac{1}{2}$	24/	L	15	9	6	64/
F	10	6	4	27/					

Sizes A to F, also K, are suited for the Furnaces of the same letters.

G to L have one slit at back only, none at sides.
In addition to those priced above, Muffles are made of all shapes and sizes,
suitable for Assayers, Enamellers, Dentists, &c.

ASSAY CRUCIBLES.

FOR COPPER.

CORNISH FORM AND QUALITY (JULEFF).

High, in.	Hauteur, milli.	Diam. in.	Diam. milli.
Nest of Two {	{ 3 $\frac{1}{2}$	3	833
2 $\frac{1}{2}$	2 $\frac{1}{2}$	2	644

2 per doz

Single... 2 0.61 2 $\frac{1}{2}$ 644 1 "

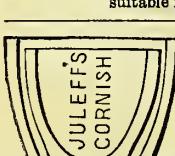
All sizes and shapes to order.

FOR TIN.

High, in.	Hauteur, milli.	Diam. in.	Diam. milli.
3 $\frac{1}{2}$	833	3	777

6 per doz.

Covers, 2/ per doz.



3 in. diam., .077 diam. milli., with Covers, 2/3 per dozen.

Other sizes to order.

FOR LEAD.

2 in. diam., .077 diam. milli., with Covers, 2/3 per dozen.

Other sizes to order.

FOR GOLD.

THESE ARE PERFECTLY SMOOTH, AND OF THE CORRECT POROSITY.

No.	Diam. in.	Diam. milli.	Height, in.	Hauteur, milli.	Per doz.
A	1 $\frac{1}{2}$	268	1 $\frac{1}{2}$	.027	2/
B	1 $\frac{1}{2}$	382	1 $\frac{1}{2}$	.032	2/
C	1 $\frac{1}{2}$	388	1 $\frac{1}{2}$	.038	2/
D	2	561	2	.045	2/

Covers for either size, 6d. per doz.



POROUS BATTERY CELLS

OF SUPERIOR QUALITY.



LIST OF PRICES ON APPLICATION.



FLAT.

Sole Manufacturers of JULEFF'S Cornish Crucibles, Copper, Tin, &c.

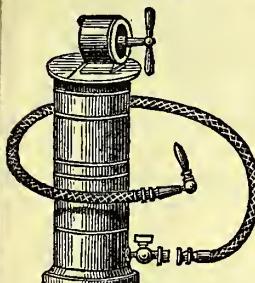
NOTICE.—Care should be taken in all instances, when ordering, to specify the Crucibles, &c., manufactured by THE MORGAN CRUCIBLE CO. (Sole Manufacturers of Morgan's and Salamander Crucibles), Battersea Works, LONDON, S.W.

ESTABLISHED 1848.

P. BOURJEAUD,
INVENTOR OF THE
SPIRAL ELASTIC BELTS, STOCKINGS,
And of SUSPENSORY BANDAGES free from Waist Band,
3 GROSVENOR ST., GROSVENOR SQUARE, W. (Three Doors from Bond Street).
BY ROYAL LETTERS PATENT,

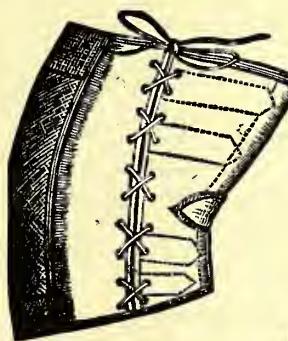
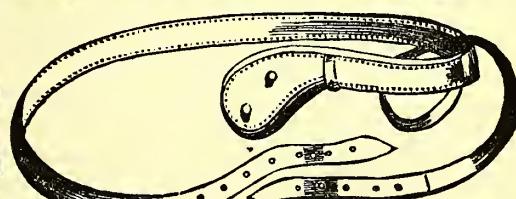
PATENT LIFTING INGUINAL HERNIA TRUSS,
FREE FROM CIRCULAR STEEL BAND.
Guaranteed to keep up any Hernia whatever may be its size. Send circumference of body.
Price, Single, £2 12s. 6d.; Double, £3 13s. 6d. Discount to the Trade, 25
At home from 11 to 4. All orders to be accompanied by Cheque or P.O.O.

ESTABLISHED 1842.

TOLLEY, MARTIN & LEBLANC.7 RUE CADET, PARIS,
Makers of DR. EGUISIER'S**IRRIGATOR**


For Enemas, Injections, Irrigators Ascendant, Douches, enabling sick persons to use in bed, without changing their places, or putting themselves to any other inconvenience.

Sole Agent, G. V. DE LUCA, 6 and 7 Long Lane, London, E.C.

HAYWOOD'S SURGICAL APPLIANCES.A. LADIES' AND GENTS'
CHEST-EXPANDING
BRACES.B. MAGNETIC APPLIANCES,
KNEE CAPS, BELTS, &c.C. ELASTIC
STOCKINGS.

D. TRUSSES.

Greatest attention paid to Special Orders, which are invariably forwarded per return of post.



E. SUSPENSORY BANDAGES

List of Prices and Directions for Measurement forwarded on application.

J. H. HAYWOOD, Castle Gate, NOTTINGHAM.**Original Plaster Works.**

ESTABLISHED OVER 60 YEARS.

A. De St. Dalmas } 40 Belgrave Gate, Leicester.
(Formerly MOORE).**MEDICAL PLAISTERS**

Of all kinds (Best Quality) for HOME and EXPORT.

PATENT POROUS PLAISTERS—Yards or Boxes.

Order "St. Dalmas's" through Wholesale Houses. Prices on application.

**FRANCIS'S
BRONCHIAL PROTECTOR**

REGISTERED TRADE MARK.

Is the best preventive and cure of Bronchitis, Asthma, Winter Congh, Tight Breathing, and all Throat Complaints. 1s. 1½d. & 2s. 9d.

Mr. J. D. Fisher, Chemist, Blackpool, in ordering another supply says—"I have tried it myself, and have received great benefit from it. My customers speak highly of its virtues. Have sold the last, so be prompt, please."

Manufactured by A. DE ST. DALMAS } Leicester.
(Formerly MOORE).

THE ONLY PERFECT ENEMA OBTAINABLE.

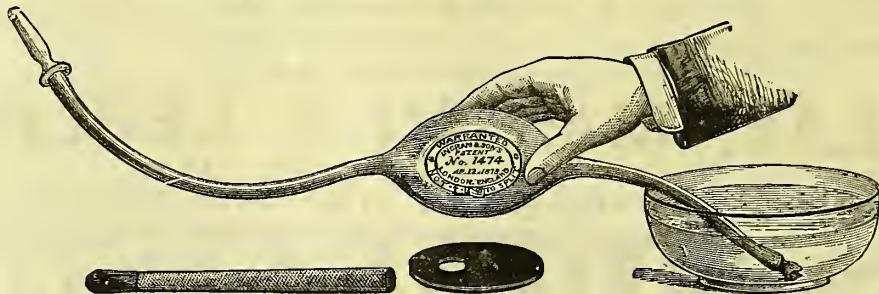
INGRAM'S IMPROVED HIGGINSON ENEMA AND SYRINGE APPARATUS

(BY ROYAL LETTERS PATENT).

Made without Seams or Ribs by our Patent Process of dipping in a solution of India Rubber, thus adding great strength and durability.

NONE GENUINE UNLESS STAMPED WITH NO. OF PATENT 1474.

**CAUTION.—The only
Enema made without
Ribs.**



WARRANTED NOT TO SPLIT.

A.—Metal Pin Valve.

INGRAM'S IMPROVED PATENT SEAMLESS ENEMA is perfectly smooth on the surface, will not become hard or sticky, will not leak, and will not admit air while injecting or refilling. Specially prepared to resist the heat of tropical countries.

The great superiority of INGRAM'S IMPROVED PATENT SEAMLESS ENEMA over all others has given rise to VARIOUS IMITATIONS, and it has become imperative that the Patentees should, in order to PREVENT DECEPTION, explain the PROCESS OF MANUFACTURE OF THEIR ENEMA and the MODE OF MANUFACTURE OF IMITATIONS thereof, as they have UNDENIABLE PROOF that INFERIOR ENEMAS are positively BEING SOLD as their "ADVERTISED" PATENT SEAMLESS ENEMA.

INGRAM'S IMPROVED PATENT SEAMLESS ENEMA is made by a NEW PATENT PROCESS, viz.: By repeated dipping in a solution of India Rubber until the required substance is attained. This process adds greatly to its STRENGTH and DURABILITY, and, at the same time, dispenses WITH ALL SEAMS, which, as is well known, are weak points in an Enema. This improved mode of manufacture (the result of long study and experience) enables the Patentees to produce a PERFECT ENEMA WITHOUT SEAMS, thus overcoming the great fault to be found in ALL other Enemas, viz.: SPLITTING AND LEAKING, which has always been a source of trouble.

INGRAM'S IMPROVED PATENT SEAMLESS ENEMA is fitted with IMPROVED VALVES, which prevent the admission of air with the fluid and CAN at any time BE REPAIRED, if necessary.

CAUTION.—Imitations of INGRAM'S IMPROVED PATENT SEAMLESS ENEMA are made of several pieces of Sheet India Rubber, which are cemented together and shaped in a mould, THUS PRODUCING RIBS ON THE SURFACE, and ENEMAS SO MANUFACTURED ARE ALWAYS LIABLE TO SPLIT AND LEAK AT THE SEAMS, AND THUS TO BECOME QUITE USELESS.

INGRAM'S IMPROVED PATENT SEAMLESS ENEMA may be distinguished from ALL IMITATIONS by its ENTIRE FREEDOM FROM RIBS OF ANY DESCRIPTION on its surface, and by having an IMPROVED METAL PIN VALVE at the suction end A; and it is acknowledged to be the ONLY PERFECT ENEMA OBTAINABLE.

Patented in England, No. 1474, April 12, 1878; in France, No. 126,909, October 11, 1878; and in America, No. 212,939, March 4, 1879.

To be obtained of all Surgical Instrument Makers, Druggists' Sundriesmen, Chemists and Druggists, In the three following qualities:—

- No. 1a. Highly Polished, in Red, Green, Blue, Black, or White.
- No. 1b. Unpolished, in Red, Green, Blue, Black, or White.
- No. 2. Unpolished, in Drab only.

Favourably noticed in "British Medical Journal," December 13, 1879; and in the "Lancet," January 3, 1880.

All Imitations may be detected by the Ribs on the Surface, and are always liable to split.

20 HIGHEST AWARDS.—INTERNATIONAL VICTORIES, 1883.

Gold Medal, Pharmaceutical Exhibition, Vienna, Austria. Silver Medal, World's Exposition, Amsterdam, Holland.

HIGHEST AWARDS OVER ALL COMPETITORS.**SPECIALTY:**

Pharmacopœia & Surgical Plasters in Indiarubber Combination.

POROUS AND PLAIN SPREAD.

ANTISEPTICS, ANTISEPTIC DRESSINGS AND ABSORBENTS.

SEABURY & JOHNSON**PLASTERS.**

Adhesive, Breast, Corn, Bunion, Court, Homœopathic, Isinglass, Kid, Mead's, Medicinal, Mustard, Spice, Pharmaceutical and Surgical, of every description, in the most approved form.

COTTONS.

Absorbent, Iodoform, Borated, Salicylated, Carbolated, Styptic Cottons. Absorbent Cottons, impregnated with Benzoic Acid, Corrosive Sub., Naphthaline, Chloride Zinc, &c., of any desired strength.

GAUZE.

Lister's Carbolated, Corrosive Sub., Eucalyptol, Iodoform, Naphthaline, Thymol, Plain Bleached, and Absorbent. We will supply Gauze impregnated with Benzoic Acid, Naphthaline, Salicylic Acid, Chloride of Zinc, &c., of any desired strength.

LINT.

Absorbent, Borated, Carbolated, Salicylated, Sublimated, &c., &c. We will supply Absorbent Lints with any Antiseptic of any desired strength. Also Flax Lints.

Crude Antiseptics, Drainage Tubes, Bone and Rubber, Iodoform Sprinklers, &c., &c.

MANUFACTURERS OF

Plasters,
Cottons,
Gauzes,
Lints,
Cotton Wool,
Jute,
Oakum,
Bandages,
Oiled Silk,
Oiled Muslin,
Oiled Paper,
Gutta Percha Tissue,
Mackintosh Cloth,
Catgut Ligatures,
Silk Ligatures,
Spongio Piline,
Bandage Gum,
Rubber Sheeting.

SEND FOR CATALOGUE.

PLASTERS.

Porous Size, $5 \times 7\frac{1}{2}$ inches. Rubber Adhesive, in 1 and 5 yard rolls, 5 to 7 inches in width. Breast, 6 and 7 inches in diameter, &c. Rubber Adhesive, Mead's, and Isinglass on spools, $\frac{1}{2}$, 1, 2, and 3 inches wide, 10 yards long. Special formulæ made to order.

OUR COTTONS ARE
Perfectly neutral. Have no acid reaction. Very absorbent. In continuous layers in boxes and packages containing 1, 2, 4, 8, and 16 ounces. Strength and quality guaranteed.

GAUZES

in 5 yard rolls in Decorated Tin cases. 100 and 1,000 yards wrapped in waterproof paper. Also in bandages, $2\frac{1}{2} \times 10$, or 4 in. \times 10 yards in length. Strength and quality guaranteed.

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25 per cent. cheaper than any in the market. 20 per cent. more surface to the pound roll. Greater absorbency, and manufactured of pure materials. Tears in both directions—most Lint tears only one way. In lbs., ounces, and small packages for retailing. We are the original producers in this country.

Improvements will be added in the interests of progressive Antiseptic methods whenever professionally endorsed.

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H. C. MASON & CO., GENERAL AGENTS.

KEENE & ASHWELL,

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A COMPANION TO THE BRITISH AND AMERICAN

HOMŒOPATHIC PHARMACOPEIAS

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world on receipt of price.

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"This is beyond any question a very useful and timely undertaking, and one calculated to advance the true interests of Homœopathy, and therefore of medicine in general. Homœopathy must eventually be recognised and taken up by general medicine as an integral part of itself, and Mr. Ashwell, by here providing pharmaceutical chemists with the means of understanding homœopathic prescriptions, and of preparing the medicines *more homœopathico*, has rendered us a material service."—*The Homœopathic World*.

"We have much pleasure in noticing the third edition of this 'Companion,' as showing how much it has been appreciated. * * * * * The chapter on Tincture making has been entirely re-written, and is excellent."—*Homœopathic Review*.

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